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ABSTRACT

In order to assess the locally developed curricula, the Cherry Creek School District of Colorado developed several objective-referenced tests focused on objectives that instructional staff have identified as important for all district students. The local assessments are designed to work in conjunction with the Iowa Tests of Basic Skills (ITBSs) to provide a picture of district-wide achievement. This report provides and interprets results on these test instruments for the 1986-87 school year for selected elementary and secondary school students. Data are presented in terms of ITBS percentile ranks of average grade equivalents for grades 3, 5, 6, and 7; and percentile bands for grades 3, 5, and 7. Areas measured via the tests include writing, critical thinking, reading, study skills, vocabulary, work study, mathematics, social studies, and language skills. Twenty-three data tables and 18 graphs are presented. (TJH)

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CHERRY CREEK SCHOOLS
STUDENT ACHIEVEMENT TESTING
1986-87

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MAJOR POSITIVE FINDINGS

1. A typical Cherry Creek student in grades 3, 5, or 7 scores well above the national average in all achievement areas measured on the Iowa Tests of Basic Skills (ITBS).

2. Student achievement in 1986-87 on the ITBS was consistently above 1985-86 levels at all grades tested.

3. Achievement is high on locally-developed assessments in language arts, mathematics, and social studies. The 1986-87 results are comparable to data from previous years.

MAJOR FINDINGS REQUIRING ACTION

1. The locally-developed assessments need to be reanalyzed to ensure that they work in conjunction with the ITBS to provide a comprehensive portion of the achievement picture.

2. Stability in the locally-developed test instruments must be established to enable the evaluation of curriculum.

3. The achievement data base needs to be enhanced to enable the calculation of separate summary results for students who have been in the District for 2, 3, and 4 years.

4. Additional sources of data should be used and reported by schools and the District to place test scores in a more proper perspective.

PREFACE

As human beings, we are constantly processing information--verbal, auditory, olfactory, kinesthetic, gustatory. We compare the current information we are receiving from our eyes, ears, nose, skin, and mouth with what we already know. Thus, we are constantly comparing, judging, and evaluating.

In our daily lives we want to make decisions based upon the best information we can obtain. That information, or data, can be either subjective or objective. The educational arena is no different from business, manufacturing, or medical settings--teachers, principals, students, and administrators use data to make decisions. Like these other work settings, much of the information used is subjective or "limited" objective, limited to a particular classroom or school setting. Both norm- and criterion-referenced tests provide objective data which usually transcends a limited setting. Thus, test results can help make better decisions by making another piece of information available.

Educational Tests

In educational testing there are two basic ways in which we compare information.

1. **Against a standard.** We ask the question: Does a student know particular information?

   Examples: Locally-developed assessment tests; curriculum-based classroom tests.

2. **Against other similar students.** We ask the question: Does a student know as much as an average student at that grade?

   Examples: Iowa Tests of Basic Skills (ITBS); Metropolitan Readiness Test (MRT).

Since the information we obtain from these two different types of tests answers different questions, the test results from the ITBS and our locally-developed assessments should be used differentially in decision making.

Because norm-referenced and criterion-referenced testing relate to different questions, each type of test should be designed to provide information to best answer the question it addresses. Thus, criterion-, or objective-, referenced tests should be relatively narrow in breadth, measuring few objectives comprehensively. A rule of thumb is that objective-referenced test items are written so about 70% - 80% of the students answer the items correctly.

Norm-referenced tests measure many objectives. This usually limits the comprehensiveness of the sample to a few items per objective. Since these tests are designed to spread out student scores, items are written with the expectation that only about 50% of the students answer the items correctly.

Testing in Cherry Creek

Nationally standardized tests such as the ITBS are designed to sample a wide range of objectives, with a rather narrow coverage of any particular objective. In order to more completely assess the locally-developed curricula, the Cherry Creek Schools have developed several objective-referenced assessments. These local assessments focus on objectives which instructional staff have identified as important for all District students. The local assessments should work in conjunction with the ITBS to provide a picture of districtwide achievement, not only on broadly defined "national" ITBS objectives, but on more narrowly focused objectives as they relate to the Cherry Creek instructional scope and sequence in various areas.

Where Do We Go From Here?

With this general test information in mind, how do the tests administered in Cherry Creek compare, what are the test results for 1986-87, what do the results mean, and how are the results used to improve education in the District? The remainder of this report focuses on these important questions.

NORM-REFERENCED TESTING

"I now want to comment on the uses and misuses of norm-referenced tests. The processes that go into their construction and the way their results are reported limit their usefulness in the front lines of the classroom. Such tests tell you that Johnny in grade six reads at the seventh grade level; or that Miss Smith's fourth grade class has an average percentile reading skill at the third grade level; or that Suzy is at the 99th percentile in mathematics achievement among tenth graders; or that the average sixth grade reading level in Super Suburb is one grade above the norm; or that Hope City has had declining reading scores for four years.

Such information doesn't tell you that Johnny is goofing off in school and much more might be expected of him; that Miss Smith's class is composed mostly of the kids of migrant workers and doing just fine; that Suzy is heading for a nervous breakdown through pressures from her parents to get into Radcliffe; that Super Suburb with ahigh average family income and 95 percent of its parents college graduates is experiencing a property tax revolt and starving its schools, whose sixth graders really should test two years above the norm; or that Hope City lost its two largest employers six years ago, an insurance company and an IBM plant, and has suffered an outmigration of educated people ever since."

Harold Howe II
"Tests and Schooling"
National Conference on Achievement Testing
Washington, DC
March 1, 1978

When most people think of a standardized test, they have in mind some variety of norm-referenced test. To construct such a test, a publisher surveys the various textbooks and other curricular materials in use around the nation and attempts to write items that reflect curriculum objectives most commonly found. Committees of experts in various curriculum areas will usually be asked to inform the process as to what is currently happening and what might happen in the future. As A. N. Hieronymous, one of the authors of the Iowa Tests of Basic Skills (ITBS) recently said "A norm-referenced test is always a compromise between current practice and best practice."

Once items have been written, they are administered to thousands of students at each grade. The students have been selected so that they form a sample that is representative of the nation as a whole. This group is referred to as the norm or norming group. The scores of students in each succeeding year are referenced to the scores of this norm group, hence the term norm-referenced. The ITBS was renormed in 1984-85. All scores will be referenced to the performance of this norming group until the test is re-normed, probably around 1991-92. (Tests must be rewritten and re-normed from time to time to reflect, among other things, shifts in curriculum emphasis.)

Types of Scores

A variety of scales can be reported - raw scores, percent correct, grade equivalents, stanines, scaled scores and percentile ranks. While Cherry Creek makes use of all but simple raw scores for different purposes, the primary scale that is used for reporting is the percentile rank. Thus, we say, for example, that the average student in the third grade at Meadow Point scored at the 63rd percentile in reading comprehension. This means that the typical student in the third grade at Meadow Point score higher than 63 percent of the students in the 1984-85 norming group. The typical student in the norming group, by definition, scores at the 50th percentile.

Whatever type of scores are reported, it is customary to report only the average scores. This is unfortunate for all of the reasons that Howe lists on the preceding page. Because the average score in isolation is ambiguous, it is sometimes referred to as a "demogogue statistic." While this report provides average score information, it also includes other data that will begin to provide a more comprehensive picture of test results.

Looking first at only the average scores, it can been seen in Table 1 that the scores for Cherry Creek District for 1986-87 are well above those of the national average and above those for 1985-86. The bottom portion of Table 1 presents average percentile rank information for each of the schools and grades administering the tests. The scores vary considerably among schools. The scores also vary considerably among the various subtests within a single school. Although not shown in Table 1, it should be noted that scores also vary among the subtests within a single child. That is, a given student may do very well on, say, reading comprehension and quite poorly on, say, mathematics computation.

(Text continues on page 10.)

TABLE 1 (Page 1 of 4)

CHERRY CREEK SCHOOLS
1986 - 1987
ITBS %ILE RANKS OF AVERAGE GRADE EQUIVALENTS

GRADE 3

	VOCABULARY		READ COMP		LANGUAGE		WORK STUDY		MATH	
	85/86	86/87	85/86	86/87	85/86	86/87	85/86	86/87	85/86	86/87
COLORADO*	53	51	54	53	59	57	54	53	52	51
CC DISTRICT	64	69	63	69	65	71	65	71	62	68
ARROWHEAD	60	60	61	54	59	51	57	58	51	56
BELLEVIEW	67	82	68	80	75	82	73	90	75	86
CHERRY HILLS VILL	76	75	75	78	75	80	75	79	71	80
CIMARRON	57	58	54	58	60	55	56	55	56	58
COTTONWOOD CREEK	64	72	63	76	68	81	65	74	63	73
CREEKSIDE	-	71	-	73	-	73	-	75	-	72
CUNNINGHAM	56	65	48	69	55	63	57	59	52	64
DRY CREEK	73	76	72	74	71	76	70	77	68	76
EASTRIDGE	55	59	53	53	57	60	56	58	45	58
GREENWOOD	63	66	61	74	65	64	64	72	65	69
HERITAGE	77	74	72	71	71	72	76	71	76	72
HIGH PLAINS	68	74	65	68	64	77	67	79	61	75
HOLLY HILLS	64	81	58	82	60	85	59	83	55	81
HOMESTEAD	79	85	77	85	78	84	77	86	75	84
INDEPENDENCE	56	71	53	65	58	69	60	71	55	71
INDIAN RIDGE	71	72	66	64	70	67	70	64	62	58
MEADOW POINT	59	67	57	63	62	73	50	72	47	69
MISSION VIEJO	69	75	70	73	72	71	75	77	74	70
POLTON	49	78	50	74	51	88	51	86	49	78
PONDEROSA	65	56	65	54	57	52	58	51	56	51
SAGEBRUSH	59	79	64	81	69	86	74	85	75	85
SUNRISE	56	56	52	53	55	50	56	53	52	50
TIMBERLINE	-	51	-	44	-	59	-	56	-	57
TRAILS WEST	58	72	59	72	63	67	63	68	57	57
VILLAGE EAST	56	69	48	62	55	69	56	74	55	74
WALNUT HILLS	70	71	69	70	67	77	67	71	64	68
WILLOW CREEK	71	74	71	76	69	78	77	80	69	75

* 1986-1987 based on 2000 student sample.

CHERRY CREEK SCHOOLS
1986 - 1987
ITBS %ILE RANKS OF AVERAGE GRADE EQUIVALENTS

GRADE 5

	VOCABULARY		READ COMP		LANGUAGE		WORK STUDY		MATH	
	85/86	86/87	85/86	86/87	85/86	86/87	85/86	86/87	85/86	86/87
CC DISTRICT	67	71	64	70	62	69	63	70	61	71
ARROWHEAD	59	61	49	58	46	52	49	60	49	54
BELLEVIEW	75	75	68	77	68	80	69	76	69	85
CHERRY HILLS VILL	80	78	74	74	75	77	76	73	77	77
CIMARRON	56	58	53	59	48	53	51	57	46	55
COTTONWOOD CREEK	70	79	70	74	68	80	68	74	67	82
CREEKSIDE	-	69	-	67	-	67	-	68	-	76
CUNNINGHAM	55	57	55	59	51	57	50	61	44	60
DRY CREEK	78	80	76	81	69	77	71	75	68	72
EASTRIDGE	65	54	57	59	54	54	54	59	49	60
GREENWOOD	70	76	70	81	64	76	69	79	71	80
HERITAGE	72	83	69	81	69	78	71	81	68	80
HIGH PLAINS	70	75	63	74	68	76	65	74	64	82
HOLLY HILLS	76	75	74	77	74	75	70	73	65	72
HOMESTEAD	69	78	70	72	69	70	66	70	60	73
INDEPENDENCE	57	69	57	68	51	66	56	68	62	67
INDIAN RIDGE	75	68	69	66	63	72	65	68	67	72
MEADOW POINT	64	67	68	68	65	78	69	78	74	84
MISSION VIEJO	61	68	58	69	56	67	56	68	52	63
POLTON	68	77	60	73	59	69	61	71	59	76
PONDEROSA	69	66	67	64	60	59	63	61	67	68
SAGEBRUSH	66	76	63	76	61	75	59	73	64	77
SUNRISE	59	60	60	57	61	56	60	58	56	58
TIMBERLINE	-	64	-	59	-	67	-	62	-	73
TRAILS WEST	59	74	53	74	58	73	58	71	55	68
VILLAGE EAST	77	71	65	63	57	64	68	72	56	68
WALNUT HILLS	68	78	66	77	64	77	61	74	62	73
WILLOW CREEK	72	82	71	83	70	75	73	83	68	79

TABLE 1 (Page 3 of 4)

CHERRY CREEK SCHOOLS
1986 - 1987
ITBS %ILE RANKS OF AVERAGE GRADE EQUIVALENTS

GRADE 6

	VOCABULARY		READ COMP		LANGUAGE		WORK STUDY		MATH	
	85/86	86/87	85/86	86/87	85/86	86/87	85/86	86/87	85/86	86/87
COLORADO*	53	54	54	53	48	49	52	53	52	52
CC DISTRICT**	67	73	64	70	64	68	64	68	66	72
ARROWHEAD	58	65	55	56	55	52	61	51	62	54
BELLEVIEW	67	81	64	75	65	75	55	74	68	74
CHERRY HILLS VILL	73	73	74	75	72	75	68	75	72	81
CIMARRON	60	58	55	53	55	48	54	52	56	48
COTTONWOOD CREEK	75	77	72	77	71	73	68	73	72	79
CREEKSIDE	-	71	-	76	-	73	-	65	-	71
CUNNINGHAM	64	62	65	57	57	60	63	56	68	60
DRY CREEK	75	86	72	83	69	77	70	77	73	74
EASTRIDGE	61	65	58	67	54	65	61	69	57	78
GREENWOOD	74	79	68	78	70	75	70	79	70	80
HERITAGE	72	77	70	78	70	75	70	75	76	79
HIGH PLAINS	73	79	69	76	65	74	69	73	71	75
HOLLY HILLS	80	81	81	79	80	76	81	74	70	70
HOMESTEAD	74	77	72	76	75	72	68	66	74	75
INDEPENDENCE	57	66	52	61	53	60	54	61	57	74
INDIAN RIDGE	68	77	65	73	64	72	70	70	72	79
MEADOW POINT	57	72	63	71	66	79	64	81	65	82
MISSION VIEJO	63	-	59	-	62	-	61	-	60	-
POLTON	66	73	60	66	56	64	61	65	67	74
PONDEROSA	62	70	57	66	51	67	57	67	66	76
SAGEBRUSH	63	-	58	-	57	-	56	-	61	-
SUNRISE	60	65	59	57	59	57	61	59	58	62
TIMBERLINE	-	59	-	58	-	59	-	60	-	67
TRAILS WEST	61	61	61	63	62	65	62	59	64	61
VILLAGE EAST	60	72	57	63	58	57	66	62	67	60
WALNUT HILLS	72	71	67	65	66	60	69	62	62	64
WILLOW CREEK	75	77	73	74	71	70	73	76	65	70

* 1986-1987 based on 2000 student sample.

** Includes all but two schools who elected not to test 6th grade.

CHERRY CREEK SCHOOLS
1986 - 1987
ITBS %ILE RANKS OF AVERAGE GRADE EQUIVALENTS

GRADE 7

	VOCABULARY		READ COMP		LANGUAGE		WORK STUDY		MATH	
	85/86	86/87	85/86	86/87	85/86	86/87	85/86	86/87	85/86	86/87
CC DISTRICT	62	64	60	65	63	64	63	65	66	67
CAMPUS	66	72	65	71	68	71	64	68	73	76
HORIZON	55	58	53	61	52	60	51	62	54	63
LAREDO	60	61	55	58	57	58	57	60	60	62
PRAIRIE	60	59	60	62	66	63	63	62	65	60
WEST	69	71	67	71	69	71	75	72	74	72

It should be clear from Howe's comments, that the primary location for accurate interpretation of test scores is at the classroom level where all of the other factors which influence a particular score are most likely to be known. However, there are a few things that can be done at the building and district level to assist people in understanding the complexity of score interpretation. For example, we can report the variability of scores around the average score.

Such variability is shown graphically in Attachment 1 for all schools, all grades and all subtests of the ITBS. The same data is presented in somewhat different format in Attachment 2. Because this report presents such information for the first time, it may be useful to examine a couple of examples. These examples are presented as Figure 1 and Table 2A.

In Figure 1, a graph of percentile bands is presented for the norming sample and for three schools for reading comprehension in the third grade. Examine first the line for the norming group. By definition, its median score is 50 and the large dot at fifty indicates where the median would fall. Again, by definition, 25% of the students will score between the 50th and the 75th percentile and another 25% will fall between the 50th percentile and the 25th percentile. This is indicated by the solid lines extending from the 25th percentile to the 75th percentile. By definition, the middle 50% of the students fall between the 25th and the 75th percentile.

The dotted lines extend the band to the 90th percentile at the top and the 10th percentile at the bottom. Again, by definition, 10% of the students in the norming group will score at or above the 90th percentile and 10% will score at or below the 10th percentile. Using this kind of visual representation of the way the scores are distributed around the average score we can gain a better feel for how pupils in a school line up. Again, with test scores in isolation, we cannot determine why the scores fall the way they do. In the three examples given, schools 1 and 2 have nearly identical median scores, but differ in how close the rest of their students fall around that median. School 3 has a somewhat lower average score and shows extreme varability around that average. Note that it has more of its students above the 90th percentile than the national average and more of its students below the 10th percentile.

Attachment 2 presents the same information arranged somewhat differently. Whereas Attachment 1 (the full versions of Figure 1), show data from all schools for one grade and one subtest, Attachment 2 shows the data from one school for one grade and all subtests.

The variability of scores has instructional implications. Those schools who demonstrate a great deal of variability have to work harder to find instructional programs in which children can succeed. (Text continues on page 13.)

Figure 1

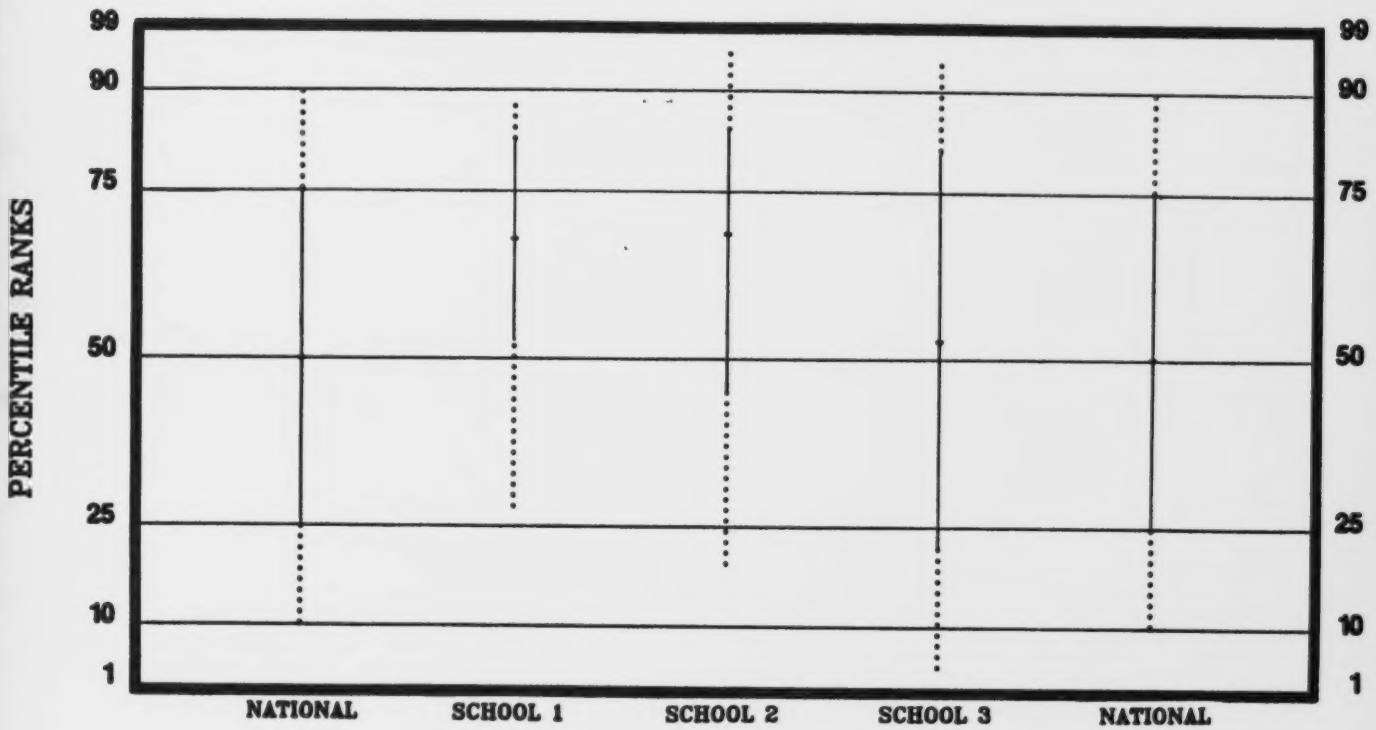
PERCENTILE RANKS
99
90
75
50
25
10
1
NATIONAL
SCHOOL 1
SCHOOL 2
SCHOOL 3
NATIONAL

TABLE 2A

SELECTED PERCENTILE RANKS AND CORRESPONDING RANKS

GRADE 3		PERCENTILE				
		10	25	50	75	90
SCHOOL	TEST					
#1	Vocabulary	16	37	60	81	94
	Reading	8	25	54	84	92
	Language Total	4	16	51	81	90
	Work/Study	12	27	58	82	94
	Math	7	27	56	84	91

Cognitive Abilities Test (CogAT)

Cherry Creek has traditionally administered the Cognitive Abilities Test (CogAT) along with the ITBS. As noted in last year's report, the distinctions between "ability" and "achievement" are troublesome. The 1985 Standards for Educational and Psychological Testing, adopted jointly by the National Council on Measurement in Education, the American Psychological Association, and the American Educational Research Assocition, carry the following caution: "It should not be assumed that, because the words 'aptitude' or 'ability' are used in the title of a test, it measures a construct distinct from what is measured by an 'achievement' test."

It is the opinion of the Office of Research and Evaluation that, while the ITBS and CogAT may measure somewhat different skills, there is, ultimately, no justification for calling one an ability test and another an achievement Test. They both fall under the rubric of "achievement" testing. It is hoped that the subcommitee of the Accountability Committe charged with the study of standardized testing in the district will address this issue and the advisability of continuing to require both tests.

In the meantime, the results for the 1986-87 CogAT indicate that CogAT scores have been extremely stable over the eight years for which data are available. This stability over the years is indicated in the data shown below.

Year	Grade	Verbal	Quantitative	Nonverbal
1986-87	3	107	108	110
1982-83	3	107	107	109
1979-80	3	107	109	109
1986-87	5	109	110	109
1982-83	5	109	109	110
1979-80	5	107	109	109
1986-87	7	108	110	110
1982-83	7	109	110	112
1989-80	7	109	110	112

(NOTE: The national average on all tests = 100.)

OBJECTIVE-REFERENCED TESTING

A norm-referenced test such as the ITBS provides adequate data for indicating how students in Cherry Creek compare relative to other students nationwide on general educational objectives. However, the ITBS is not designed to assess the specific objectives which instructional staff have determined that all students in Cherry Creek should master. In order to more completely assess our locally-developed curricular objectives, the Cherry Creek Schools have developed several objective-referenced assessments. The results of these assessments, in conjunction with the ITBS data, should assist teachers, principals, and other District personnel in examining the effectiveness of their instructional curricula.

However, locally-developed tests must become stable instruments. In the early stages of development, local tests will vary in content as the objectives and items are deleted and refined. At some point, though, an instrument must be considered "finished." Otherwise, we cannot tell from year to year whether changes in scores reflect changes in accomplishment or changes in test content.

Assessments Developed

A series of assessments has been developed in language arts and mathematics. In social studies, a middle school assessment has been in place since the 1985-86 school year, while the elementary assessment will be implemented during the 1987-88 school year, after two years of pilot testing. A middle school science assessment was field tested during 1986-87, with middle school computer education items pilot tested during 1985-86. New assessments planned for the 1987-88 school year include a high school social studies assessment and the development of a geometry assessment.

Testing Dates

As shown in Attachment 3, most local assessments are administered in April or May. Scheduling adjustments are made for students attending year-round schools so they are tested during the comparable week in their school calendar as students in conventional-calendar schools.

Students Tested

It is important to remember that while assessments have been designed for administration at particular grades, the purpose of each test is to measure the effectiveness of instruction from kindergarten through that point in time.

The Language Arts Local Assessments are given to students in grades 3, 6, and 8, and to students in grade 10 language arts classes. The Mathematics Local Assessments have been developed for use at grades 3, 6, and 8, and for students (middle school and high school) completing the Algebra 1 sequence in the spring. The Middle School Social Studies Assessment is composed of two parts. A traditional multiple-choice assessment of knowledge and skills is given at grade 8, while an optional citizenship survey can be administered at any time during the school year to students in either grade 7 or 8. The Elementary Social Studies Assessment has been designed to assess the kindergarten-through-grade 5 objectives. Each of the four Middle School Science Assessments (Earth; Life; Physical; Process) are given at the end of that particular strand of instruction in the middle school. Similarly, the Middle School Computer Education Assessment items have been developed to assess knowledge after completion of the computer literacy course.

District Results and School Variability

These results summarize the performance of students in the District at the time of testing in 1986-87. The districtwide local assessment results indicate acceptable levels of performance on most objectives in each area tested. However, there is a great deal of school variability on each assessment, an example of which is provided as a part of Attachment 4 (Grade 3 Language Arts). Districtwide results focus attention on areas which need to be addressed throughout Cherry Creek. Each school should review their own results as a part of their instructional improvement efforts.

It should be noted that Cherry Creek continues to experience both growth and transiency, as summarized on page 26. Currently it is not possible to calculate the results for students who have been in the District for varying lengths of time. When test results can be reported for students who have experienced a school's curricula for different numbers of years (2 vs. 3 vs. 4), then the results of our locally-developed assessments can assist in making truly useful curricular decisions.

LANGUAGE ARTS

The Language Arts local assessments attempt to measure those essential learning outcomes as identified by District language arts teachers. The goal is that each Cherry Creek student has mastery of these critical learning outcomes by the end of grades 3, 6, 8, and 10 as a result of the curricula of any school in the District.

Four major language arts program areas are assessed, with several topics covered in each area. . .

Writing: Organization, Content, Mechanics
Critical Thinking: Selection, Interpretation, Synthesis, Application
Reading: Decoding, Comprehension, Literary Development
Study Skills: Organizational Skills, Content Areas

Each assessment is a combination of multiple-choice test questions and constructed response items. The constructed response items require students to write answers, which are then scored by teams of District teachers.

Results

As shown in Table 2, an average student in Cherry Creek answers 70% - 90% of the items in an area correct. The percentages are slightly higher at grades 3 and 8 (generally in the 80's), than at grades 6 and 10 (generally in the 70's). Of the 31 major content areas assessed across the four grades:

* 2 had average performance levels above 90%;
* 12 had average performance levels between 80% - 89%;
* 16 had average performance levels between 70% - 79%; and
* 1 had an average performance level below 70%.

(Attachment 4 through Attachment 7 provides more detailed summary results by grade level, for each individual objective assessed at that level.)

To gain a better understanding of the assessment, particularly the constructed response portions, a more in-depth analysis of a few items is needed. (The scoring criteria for these examples are presented in Attachment 8.)

The constructed response portion at grade 10 consisted of writing an essay. The grading team gave a passing score to 76% of the essays, with 12% of the students writing an excellent essay and 64% a competent one.

One of the grade 8 constructed response tasks was writing a paragraph, which was performed acceptably by over 84% of the students (about 5% excellent and 80% acceptable). About 16% of the grade 8 students produced unacceptable writing that was characterized by irrelevant supporting details or no topic sentence.

Students at grade 6 were required to write a story, which was acceptable in 48% of the cases in 1986-87. The most common reasons for not receiving a passing score include writing a story which did not contain an ending or contained an illogical ending (26%), or an illogical sequence of events (13%).

Since these results summarize the efforts of about 93% of the students in grades 3, 6, 8, and 10 (see Attachment 9 for the percent of students included in test averages), most of the Cherry Creek students are performing at a level which is generally the goal for objective-referenced tests.

A longitudinal analysis of trends in our language arts assessment must wait until the year-to-year revisions of items is minimal.

(Note: A grade 11 writing sample was not performed in 1986-87. A reanalysis of the purpose for that assessment and its administrative procedures is scheduled for 1987-88.)

TABLE 2
1986-87 LANGUAGE ARTS ASSESSMENT RESULTS

LANGUAGE ARTS OBJECTIVE	Grade 3			Grade 6			Grade 8			Grade 10		
	# OBJ	# ITEMS	% COR	# OBJ	# ITEMS	% COR	# OBJ	# ITEMS	% COR	# OBJ	# ITEMS	% COR
Writing												
Organization	1*	1	80.1	5*	9	69.8	7*	14	88.8	1*	1	76.1
Content	1	5	85.4	-	-	-	-	-	-	2	6	72.1
Mechanics	3*	3	74.5	9*	26	76.1	9	30	82.6	3	15	78.1
Critical Thinking												
Selection	-	-	-	-	-	-	1	3	86.1	2	10	79.9
Interpretation	1	3	78.6	1	3	78.0	1	4	87.1	-	-	-
Synthesis	1	3	85.1	-	-	-	-	-	-	-	-	-
Application	-	-	-	-	-	-	1	3	87.3	1	7	90.6
Reading												
Decoding	16	95	81.5	5	15	73.3	-	-	-	-	-	-
Comprehension	6*	22	80.3	6	21	75.0	1	3	80.3	6	25	75.9
Literary Development	-	-	-	-	-	-	1	3	74.2	1	5	70.8
Study Skills												
Organizational	1*	1	92.8	1*	1	72.1	-	-	-	-	-	-
Content Areas	1	5	87.8	2	8	72.5	1	3	79.9	-	-	-
TOTAL	31	138		29	83		22	63		16	69	
NUMBER OF STUDENTS TESTED			1938			1858			1841			1936

OBJ = Number of Objectives on that Topic
ITEMS = Number of Items Measuring those Objectives
% COR = Average Percent of Items Correct Across Objectives

* = Includes Constructed Response objectives which may have several parts per item

MATHEMATICS

Mathematics assessments are given at grade 3, 6, and 8, and in Algebra 1. In addition to assessing essential learning outcomes, each mathematics assessment includes some items which address noncritical objectives. Mastery is not expected on these objectives until a later grade.

The grades 3 and 6 tests consist of multiple-choice questions and constructed response items, with all constructed response items scored by the classroom teacher. The grade 8 and Algebra 1 tests are composed entirely of multiple-choice questions.

Results

The 1986-87 Grades 3 and 6 Mathematics Assessments results for major topic areas are shown in Table 3, with the more detailed results by objective provided in Attachments 10 and 11. As seen in Figure 3, performance on the grade 3 assessment is slightly higher on most topics than at grade 6, with average students in both grades answering about 70% - 80% of the items correct. These results are very similar to those from the 1984-85 school year. (The grades 3 and 6 mathematics assessments were not given in 1985-86 because of the State's spring 2+2 testing.)

These Mathematics results represent high levels of performance but are slightly lower than in Language Arts due to the inclusion of objectives which are only introduced and not mastered at grades 3 or 6. However, the limited number of objectives used to measure some topics (see Table 3), in combination with a small number of items per objective, cautions against generalizing from these results for systematic program changes.

(Note: The mathematics objectives for kindergarten through grade 6 are currently being revised, with changes to be finalized during the 1987-88 school year.)

Grade 8 and Algebra 1 results for the last three school years are presented in Tables 4 and 5, respectively. As shown in Table 4 and Figure 4, the grade 8 results for 1986-87 are slightly higher than in previous years, with average student performance higher than 80% correct in most topic areas. The combined middle school/high school Algebra 1 results for 1986-87 are slightly higher in 7 of 8 topic areas than in the previous two years. This may be a result of more middle school students and fewer high school students taking the Algebra 1 sequence, since the typical middle school student outperforms his/her high school counterpart on this assessment. (Objective summaries for the Grade 8 Mathematics Assessment, middle school Algebra 1, and high school Algebra 1 are provided in Attachments 12 through 14.)

Both the Grade 8 and Algebra 1 assessments, like the elementary, have several topics which are measured by very few objectives and items. Again, caution should be used when making curricular decisions based upon this data. (Text continues on page 24.)

Figure 3

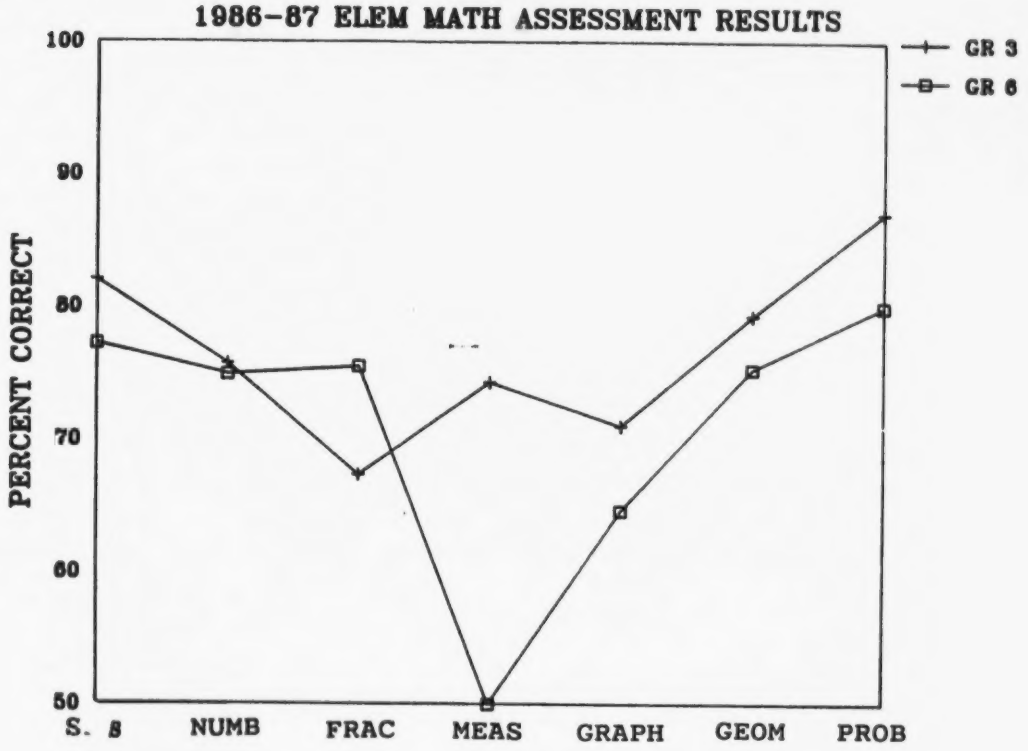

Figure 4

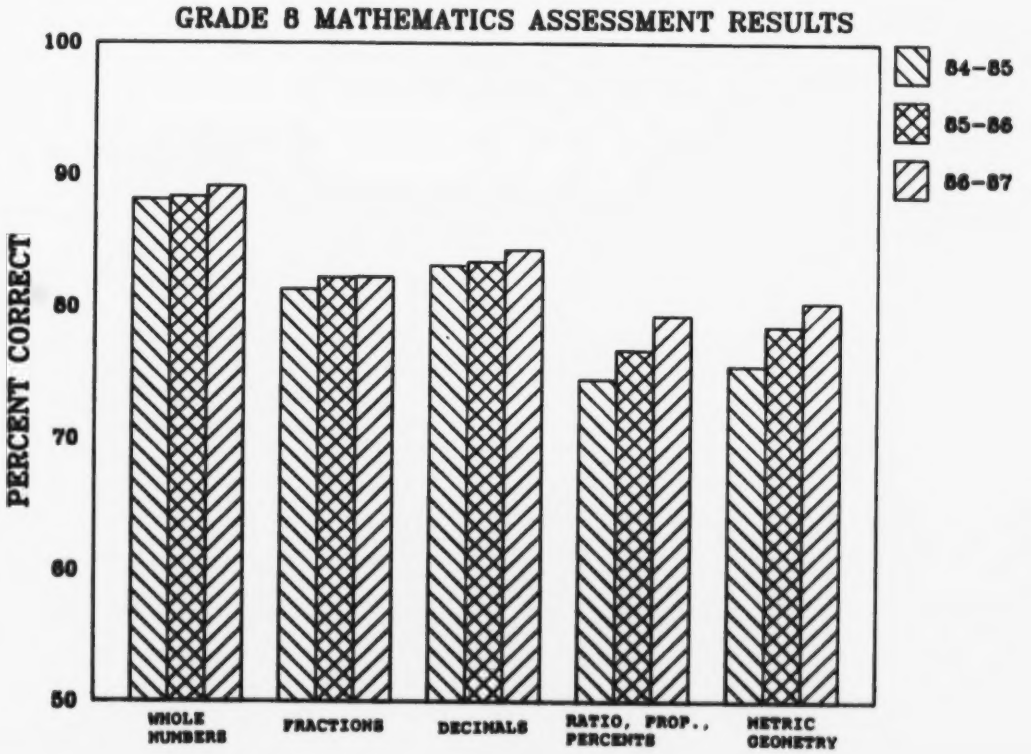

TABLE 3
1986-87 ELEMENTARY MATHEMATICS ASSESSMENT RESULTS

MATHEMATICS TOPIC	Grade 3			Grade 6		
	# OBJ	# ITEMS	% COR	# OBJ	# ITEMS	% COR
Sets, Numbers, and Numeration	6	11	82.0	5	9	77.2
Number Sentences and Properties	7	27	75.7	5	15	74.9
Fractions, Decimals, and Percent	6	9	67.3	12	30	75.5
Measurement	4	5	74.3	3	4	49.9
Graphs, Charts, Tables, and Statistics	1	3	71.0	3	5	64.6
Geometry	1	2	79.3	4	4	75.3
Problem Solving and Application	2	7	87.0	2	6	80.0
TOTAL	27	64		34	73	
NUMBER OF STUDENTS TESTED		1937			1866	

OBJ = Number of Objectives on that Topic
ITEMS = Number of Items Measuring those Objectives
% COR = Average Percent of Items Correct Across Objectives

TABLE 4
GRADE 8 MATHEMATICS ASSESSMENT RESULTS

MATHEMATICS TOPIC	# OBJ	# ITEMS	1984-85 % COR	1985-86 % COR	1986-87 % COR
Whole Numbers	4	7	88.1	88.3	89.1
Fractions	7	14	81.3	82.2	82.2
Decimals	8	14	83.1	83.4	84.3
Ratio, Proportion, and Percent	6	9	74.5	76.7	79.3
Metric Geometry	6	8	75.5	78.5	80.3
TOTAL	31	52			
NUMBER OF STUDENTS TESTED			1999	1887	1832

OBJ = Number of Objectives on that Topic
ITEMS = Number of Items Measuring those Objectives
% COR = Average Percent of Items Correct Across Objectives

TABLE 5
ALGEBRA 1 ASSESSMENT RESULTS:
MIDDLE SCHOOL AND HIGH SCHOOL COMBINED

MATHEMATICS TOPIC	# OBJ	# ITEMS	1984-85 % COR	1985-86 % COR	1986-87 % COR
Real Numbers and Operations on the Real Numbers	4	13	81.3	82.0	82.2
Open Sentences in One Variable	5	19	65.6	65.3	64.5
Open Sentences in Two Variables	2	2	70.9	71.5	72.6
Graphing the Linear Function	4	6	52.1	54.3	54.5
Systems of Equations	1	2	65.6	66.4	68.7
Polynomials and Factoring	4	16	67.4	67.4	70.4
Operations with Fractions	4	10	63.9	63.8	65.7
Properties of Exponents and Radicals	2	7	67.2	69.3	70.5
TOTAL	26	75			
NUMBER OF STUDENTS TESTED	Grade 8		148	180	197
	Grades 9-12		1628	1584	1572
	Total		1776	1764	1769

OBJ = Number of Objectives on that Topic
ITEMS = Number of Items Measuring those Objectives
% COR = Average Percent of Items Correct Across Objectives

SOCIAL STUDIES

The Middle School Social Studies Assessment covers three general categories: **knowledge** of social studies concepts; **skills** involved in utilizing the concepts; and **citizenship** factors. Social Studies knowledge and skills are assessed at the end of grade 8 through multiple-choice questions. Citizenship objectives are addressed through an optional survey section, which can be administered at any time during the school year to middle school students.

The 1986-87 school year was the second year past a pilot test phase for the Middle School Social Studies Assessment. However, in previous years no individual student results were reported and each student took only half of the items, with a resulting scepticism over the validity and reliability of the District results. For the 1986-87 assessment, individual student results were reported back to the schools and each student was tested on each objective. Some of the 1986-87 results are substantially higher than in 1985-86, with either of these factors a partial explanation for this improvement.

Results

The results of the knowledge and skills objectives for the 1986-87 Middle School Social Studies Assessment are presented in Table 6. Since the citizenship section is optional, no District results are available for that portion of the assessment. As shown in that table, an average student answers 71% - 84% of the items correctly, although particular objectives may be substantially higher or lower (see Attachment 15 for the Objective Summary). While individual objectives may have less than three items, the more general objectives and categories have a sufficient number of items to impart reliability to these results.

The Elementary School Social Studies Assessment was in the second year of pilot testing during 1986-87. It will become a part of the regular assessment reporting process in the 1987-88 school year.

TABLE 6
1986-87 MIDDLE SCHOOL SOCIAL STUDIES ASSESSMENT RESULTS

CATEGORY	OBJECTIVES	# OBJ	# ITEMS	% COR
KNOWLEDGE	Government in the U.S.: Functions/Levels/Documents	3	11	71.2
	Geography: Land & Water	4	26	84.4
	Social Studies Concepts	6	24	77.2
SKILLS	Summarize/Predict/Conclude/ Distinguish Fact-Fiction	4	14	80.4
	Read/Interpret: Maps, Charts, Graphs, Timelines, Political Cartoons	3	18	78.2
	Problem Solving/Cause-Effect/ Gather Information/Listen	5	16	81.2
	TOTAL	25	109	
	NUMBER OF STUDENTS TESTED			1759

OBJ = Number of Objectives on that Topic
ITEMS = Number of Items Measuring those Objectives
% COR = Average Percent of Items Correct Across Objectives

INFORMATION RELEVANT TO ACHIEVEMENT DATA

In order to place achievement data in its proper perspective (see Attachment 16), other information about Cherry Creek must be considered. Two important areas to consider in interpreting student achievement in Cherry Creek are:

* Characteristics of the student population, and
* Programs for special populations.

Membership in kindergarten through grade 12 was about 4% higher in the 1986-87 school year than the previous year.

Oct. 17, 1986: 26,503	Jan. 23, 1987: 26,531	Apr. 17, 1987: 26,394
Oct. 18, 1985: 25,391	Jan. 24, 1986: 25,382	Apr. 18, 1986: 25,407
Increase over 1985-86: 1,112	1,149	987
(4.4%)	(4.5%)	(3.9%)

Enrollment changes (the number of students entering or leaving a school) are substantial for the District and vary greatly by school at each level. As of June 5, 1987, the combined (incoming plus outgoing) enrollment changes since September 5, 1986 in kindergarten through grade 12 was 22.2%. For that same time period the elementary school turnover ranged from 5.6% to 50.3%, with the middle school enrollment changes ranging from 8.7% to 28.8% and the high school turnover varying from 13.3% to 23.1%. [Note: The district's enrollment stability (percent enrolled throughout the entire school year) is not known, only the enrollment changes.]

Enrollment Changes K-12 Since September 5, 1986	Jan. 23	Apr. 17	June 5
Incoming	1870 (7.1%)	2674 (10.2%)	2885 (11.0%)
Outgoing	1658 (6.3%)	2599 (9.9%)	2960 (11.2%)
Combined Turnover	3528 (13.4%)	5273 (20.2%)	5845 (22.2%)

Special educational services are offered to the wide range of exceptional students who require additional assistance for their instructional, emotional, social, behavioral, or physical needs. Each school offers a variety of services to meet the educational needs of all its students. Emphasis is placed on including all students in the regular educational program of the school as much as possible.

The percentage of students who qualify for free/reduced price meals is about 5%. This percentage has been increasing over the past few years, with 1,327 students approved for receipt of this service in December, 1986, as compared to 1,013 in December, 1985. The total number of meals provided increased by over 22% from 1985 to 1986 (131,024 vs. 160,939).

Programs for special populations share the goal of improving student achievement. During the 1986-87 school year, federal **Chapter 1** funding was sufficient to provide reading programs in five schools (4 elementary; 1 middle). The district had six (3 elementary; 3 secondary) **ESL centers** to provide instructional support for students whose primary language is not English. Last year 28 languages were represented as the primary language for these students.

School/parent surveys provide useful information on a variety of school issues. Each year several schools survey the parents of students attending their school. This year 8 elementary schools received survey feedback, with an average survey return rate of 50% (range from a high of 59% and a low of 38%). Each survey included questions which focused on student achievement, with the results generally positive at each school.

LIST OF ATTACHMENTS

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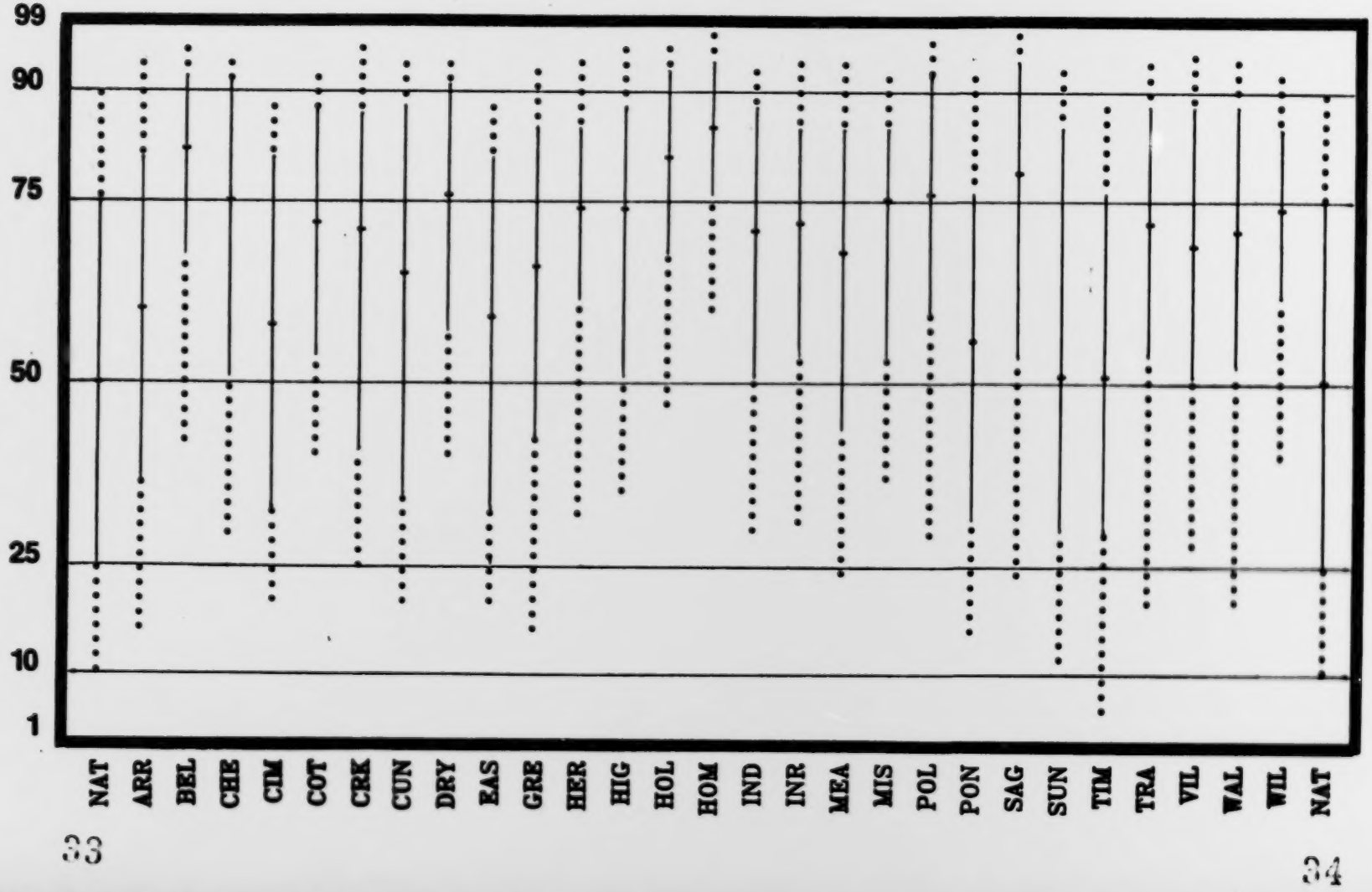
%ILE BANDS – GRADE 3 – VOCABULARY

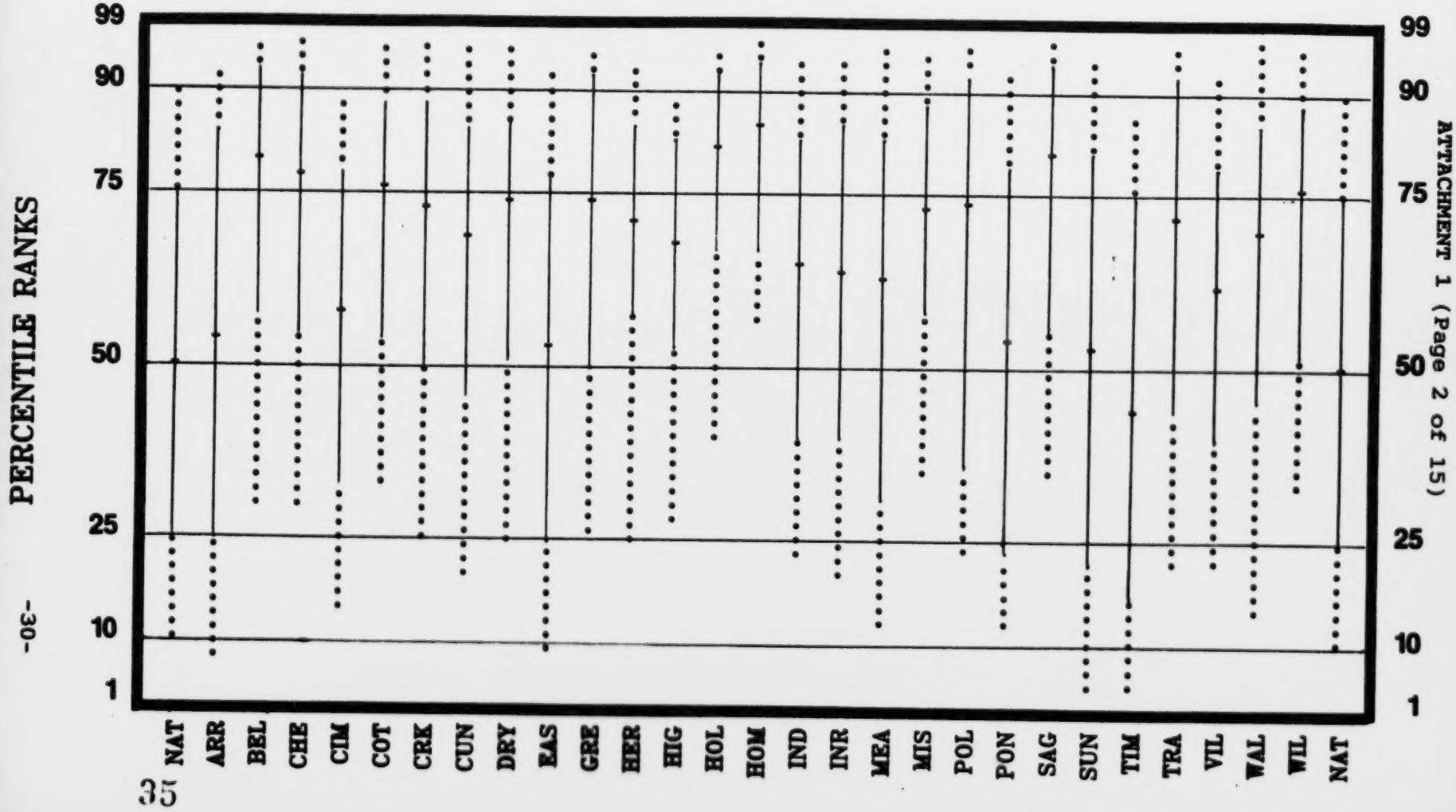
1986/1987



ATTACHMENT 1 (Page 1 of 15)

%ILE BANDS – GRADE 3 – READING

1986/1987



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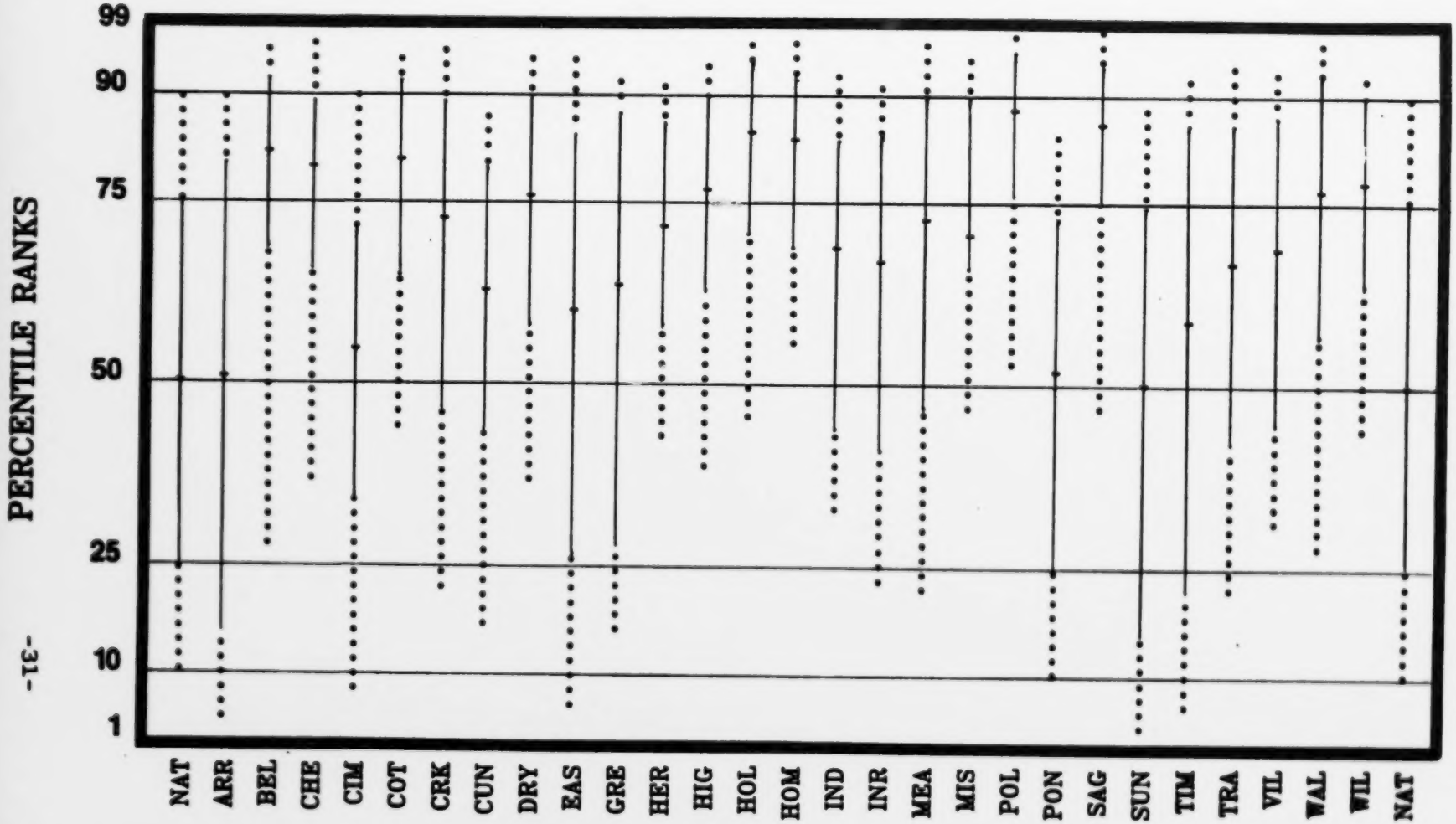
%ILE BANDS – GRADE 3 – LANGUAGE

1986/1987



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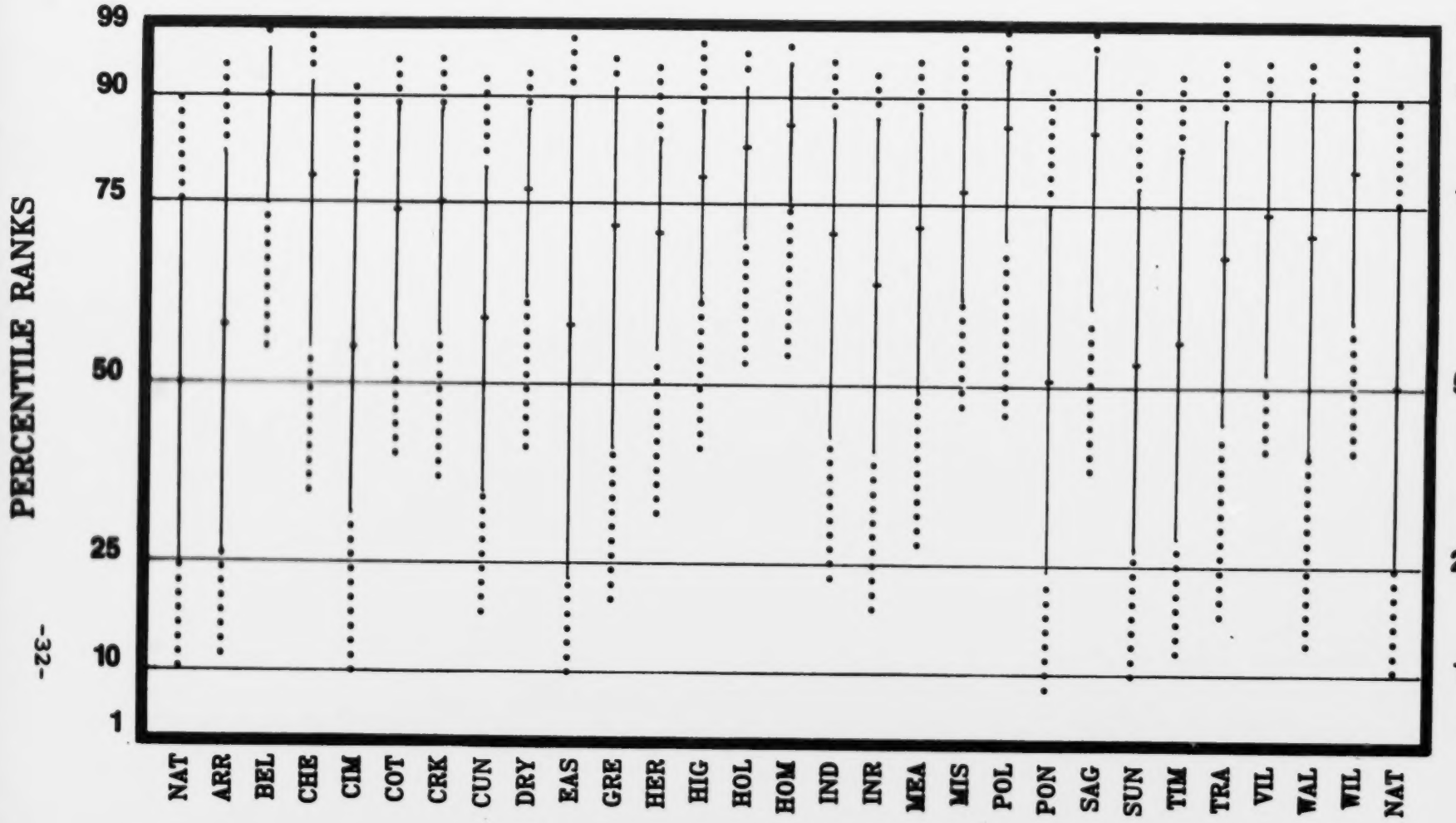
%ILE BANDS – GRADE 3 – WORK STUDY
1986/1987



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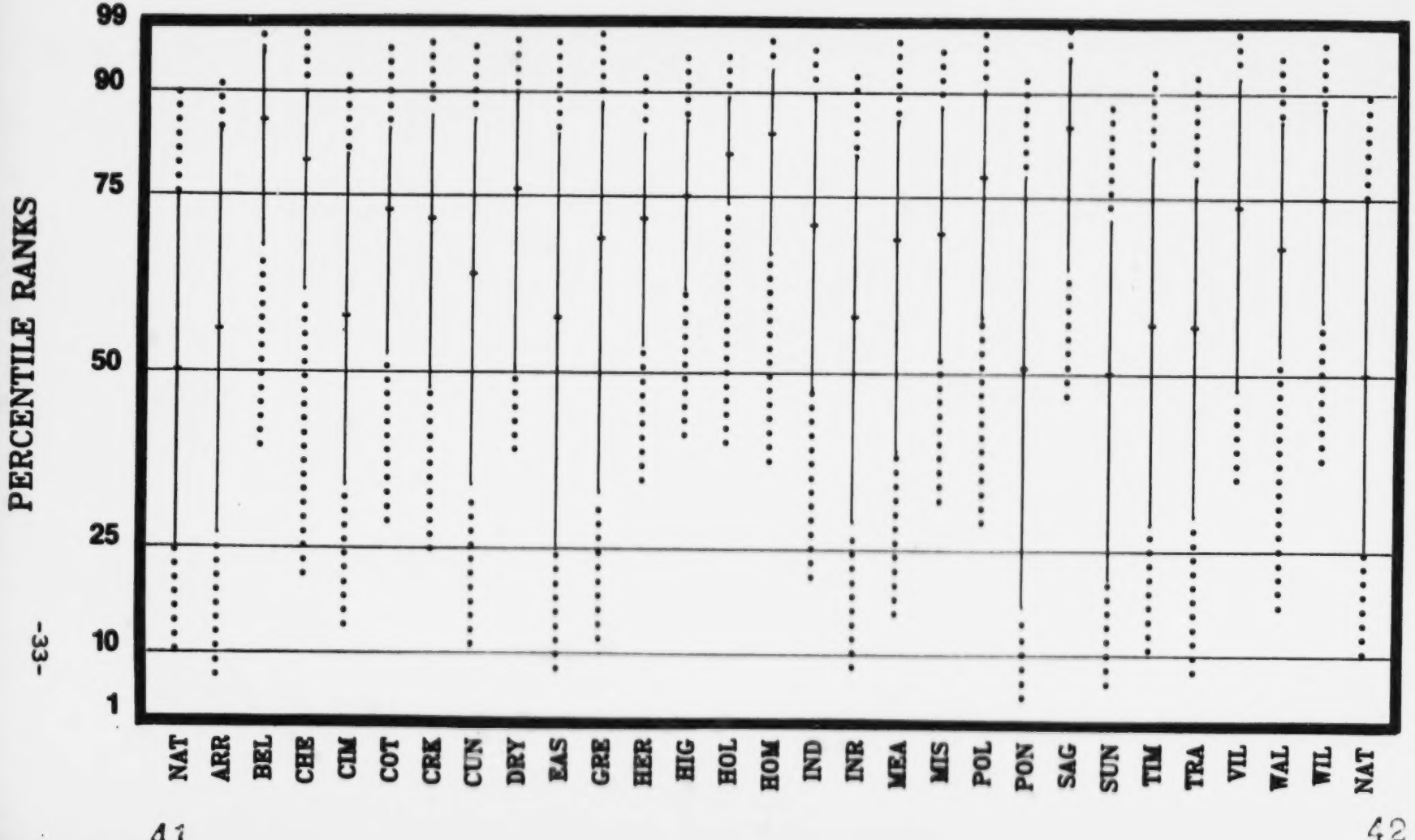
1986/1987



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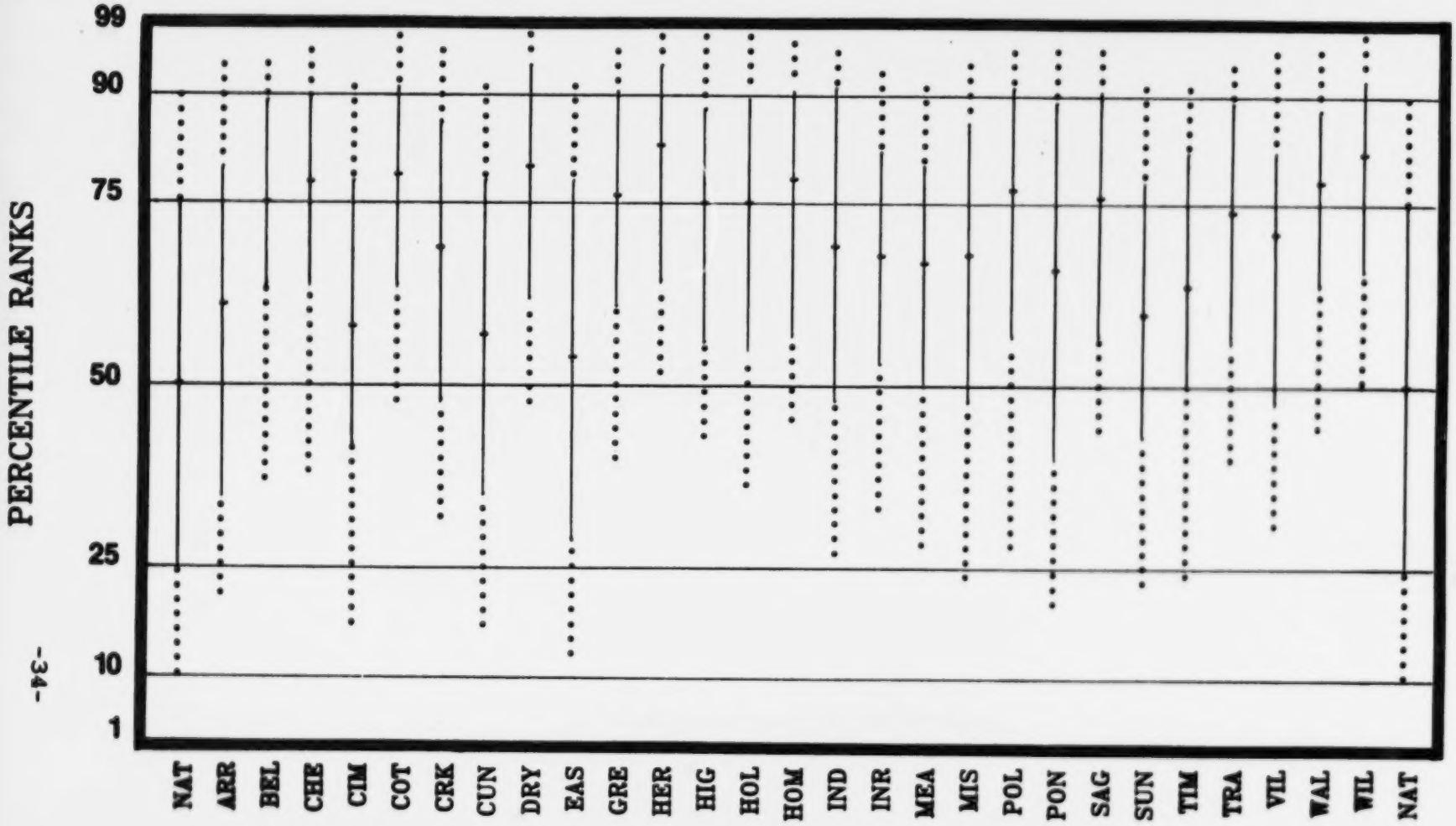

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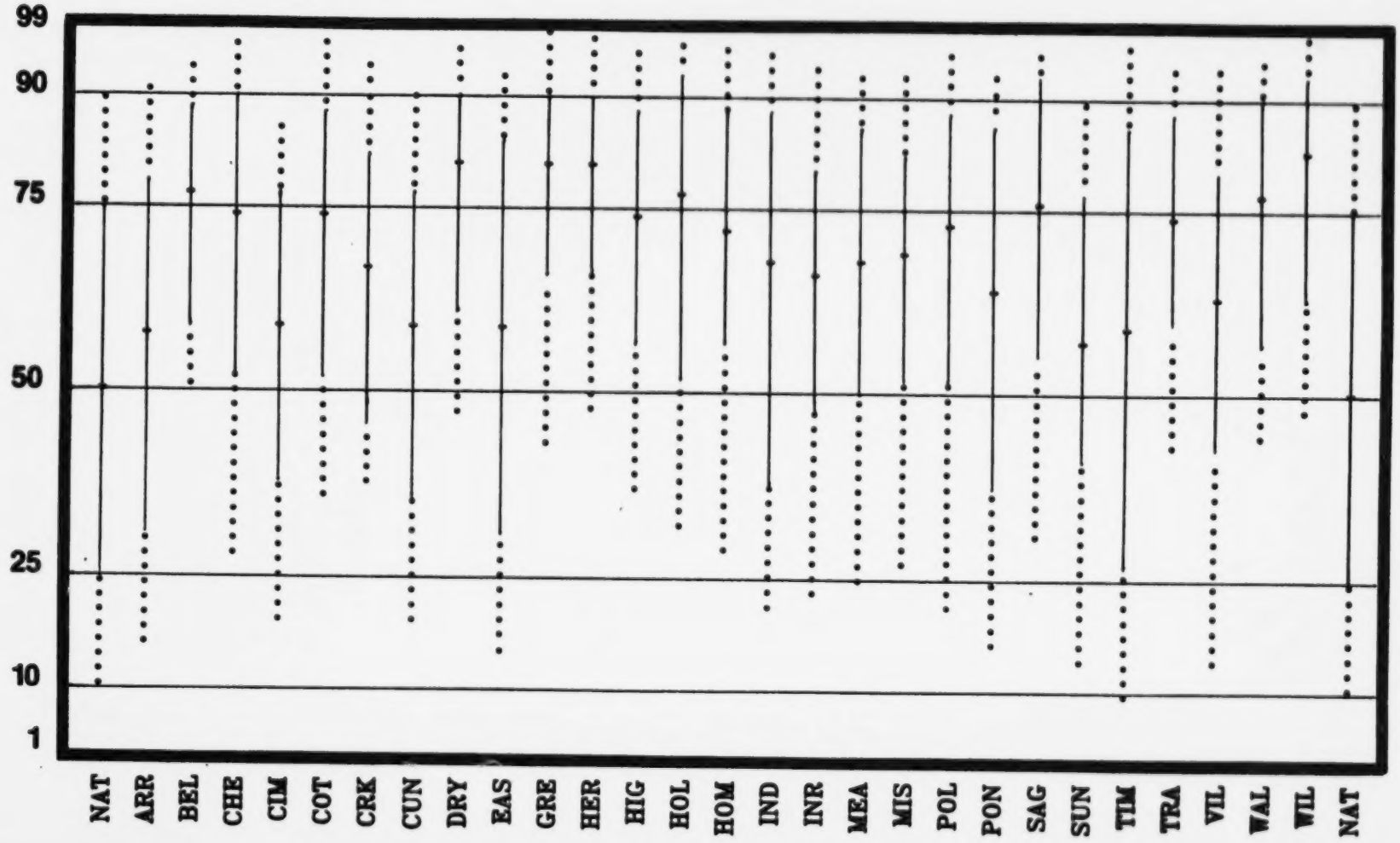
1986/1987



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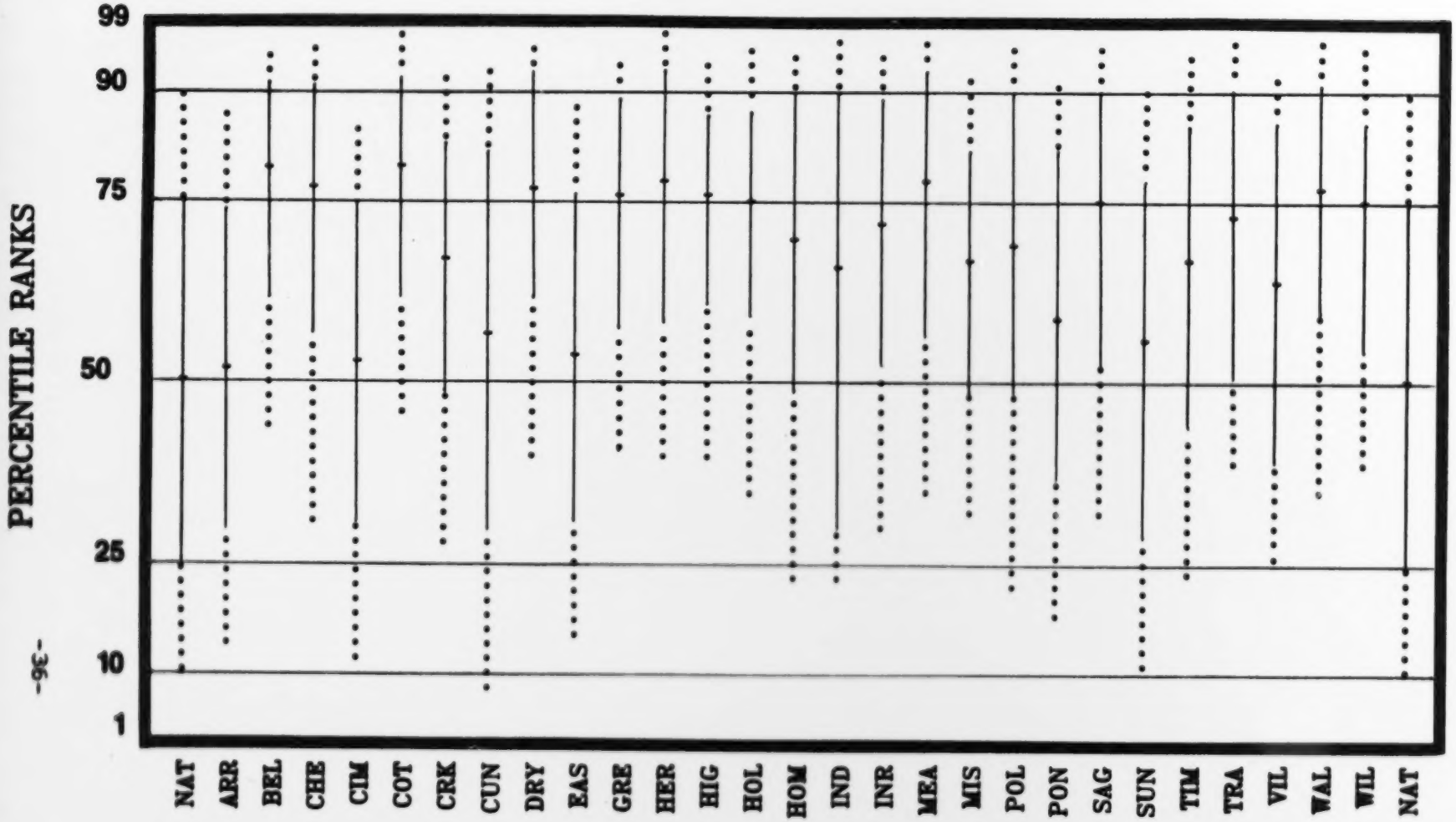
1986/1987



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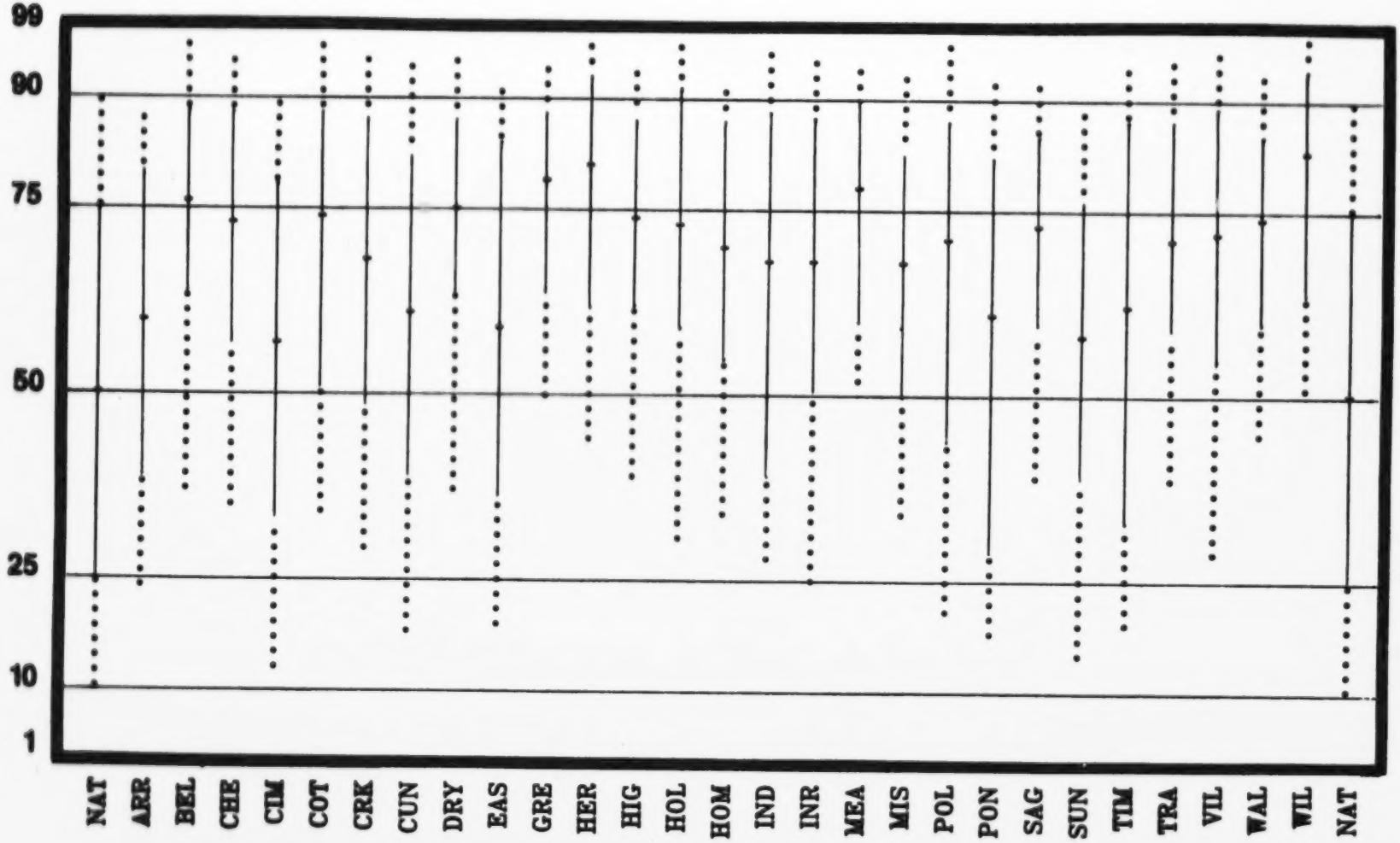

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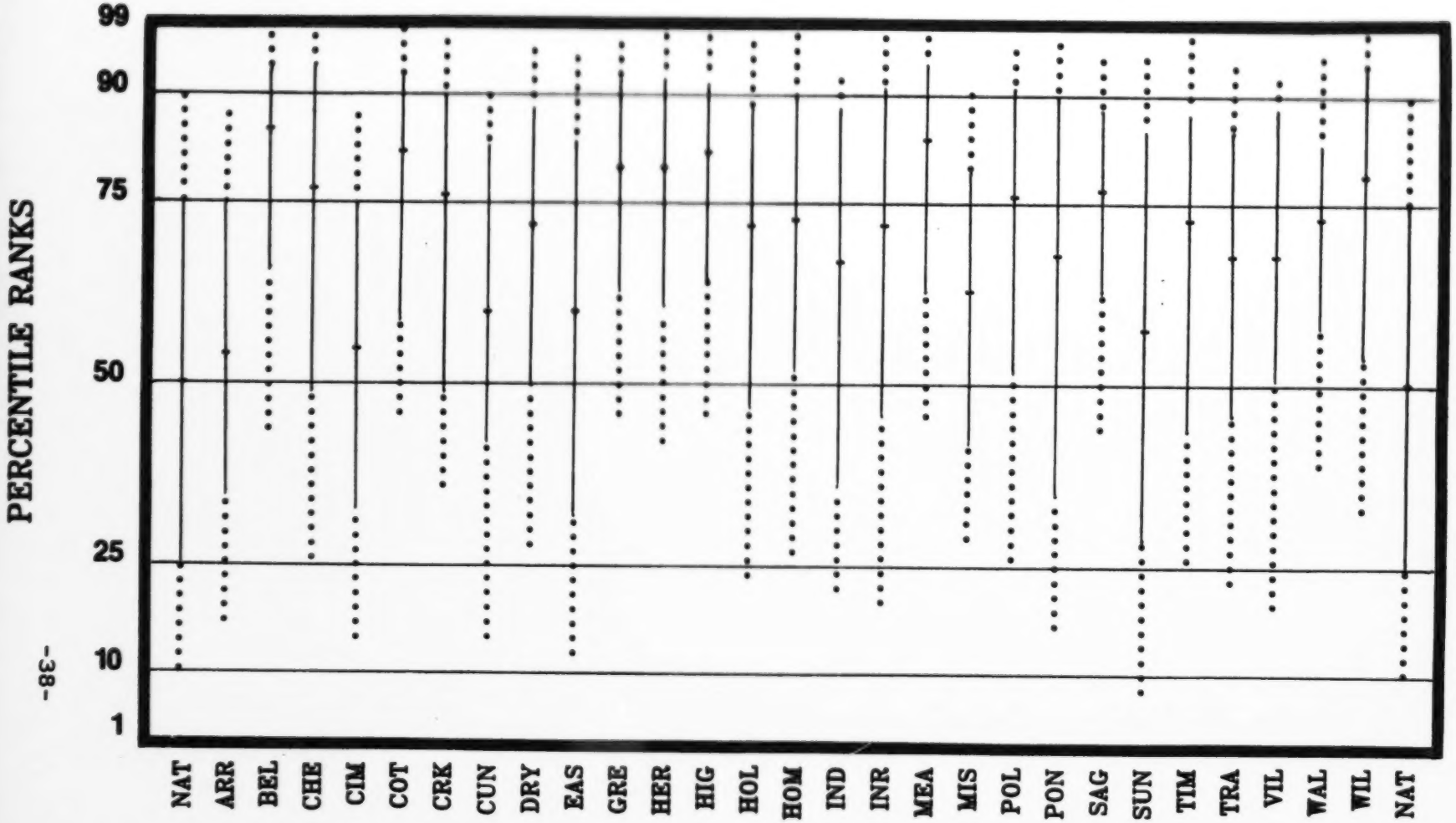
%ILE BANDS - GRADE 5 - MATH

1986/1987



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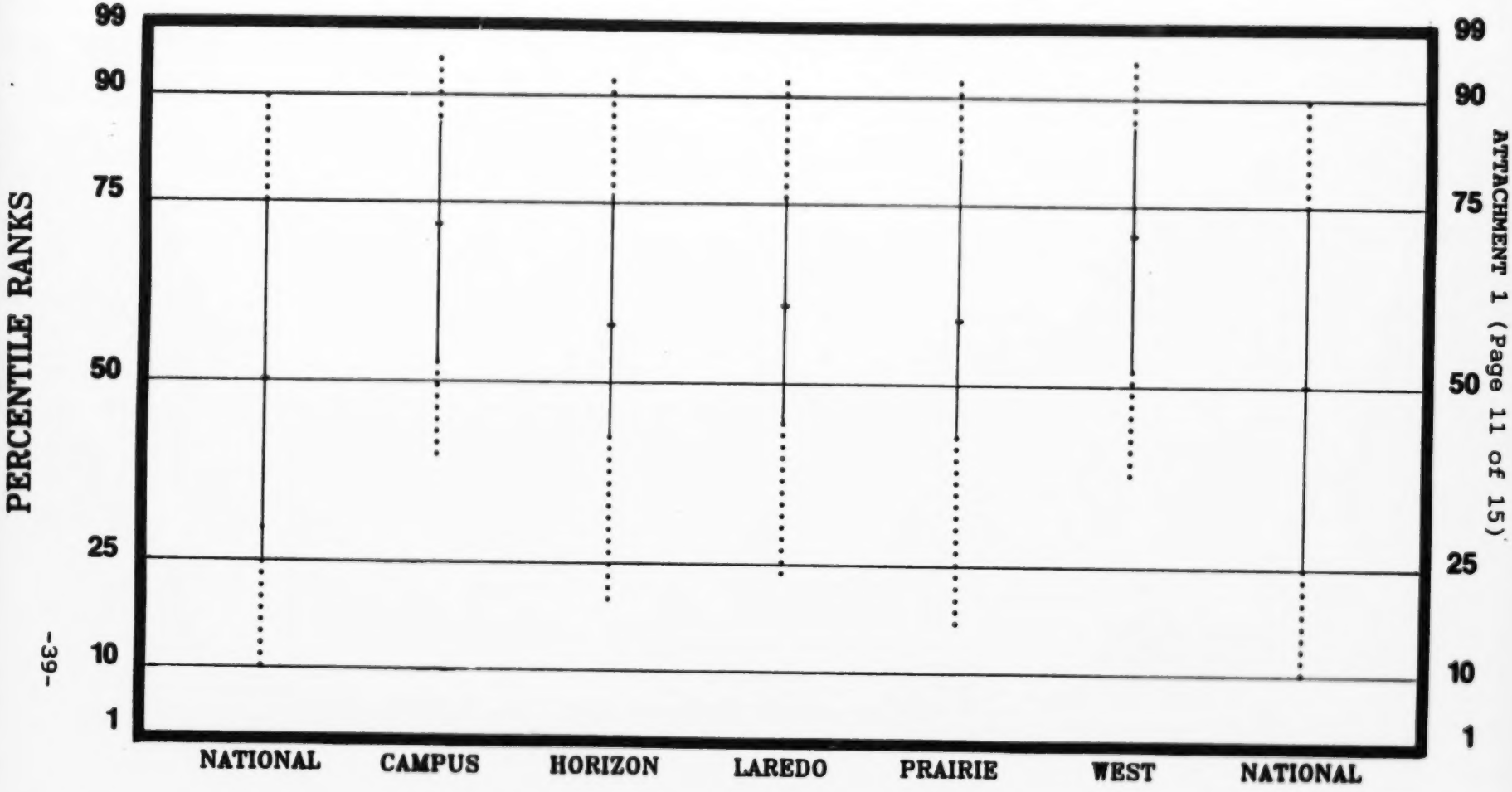
%ILE BANDS – GRADE 7 – VOCABULARY

1986/1987



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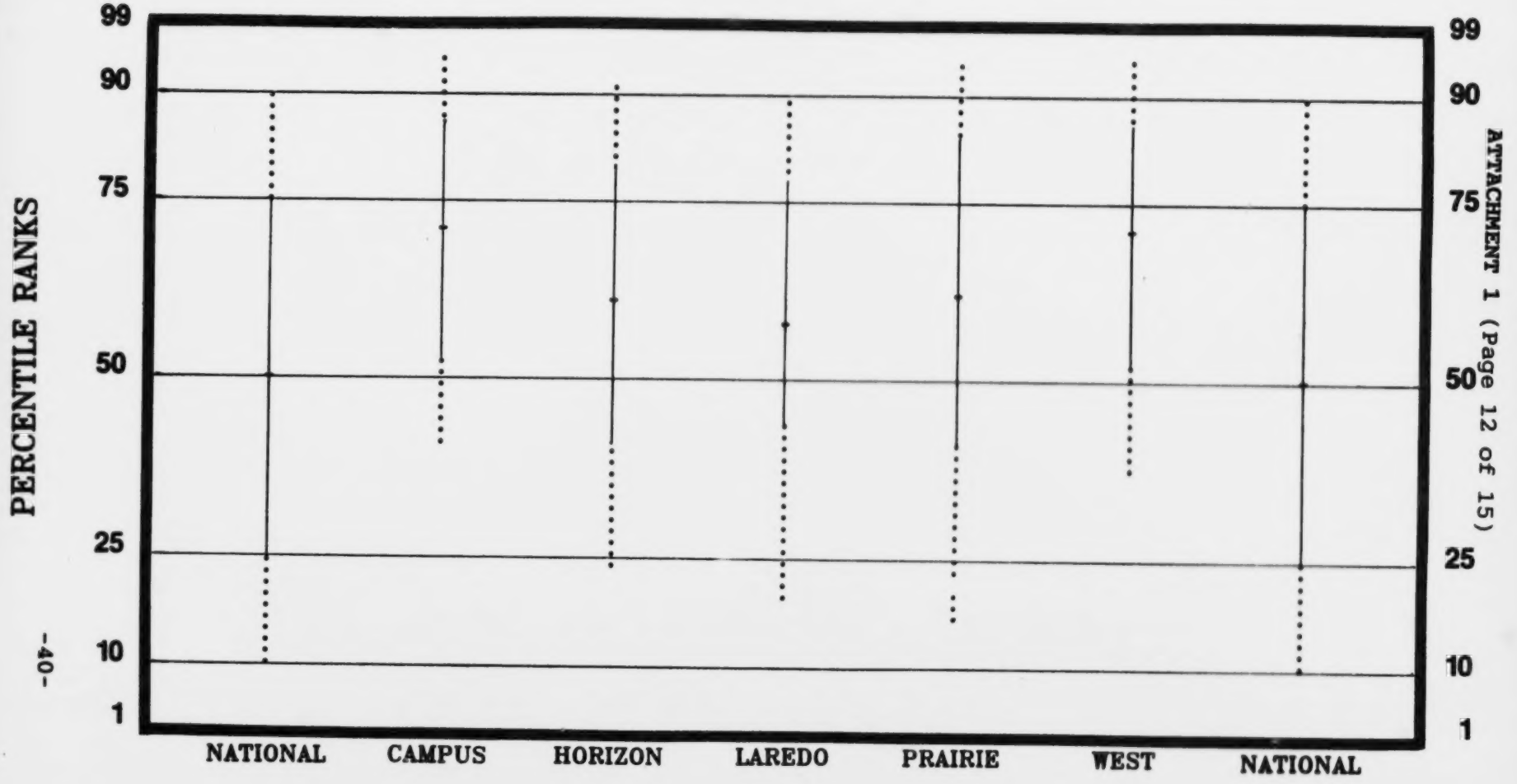
1986/1987



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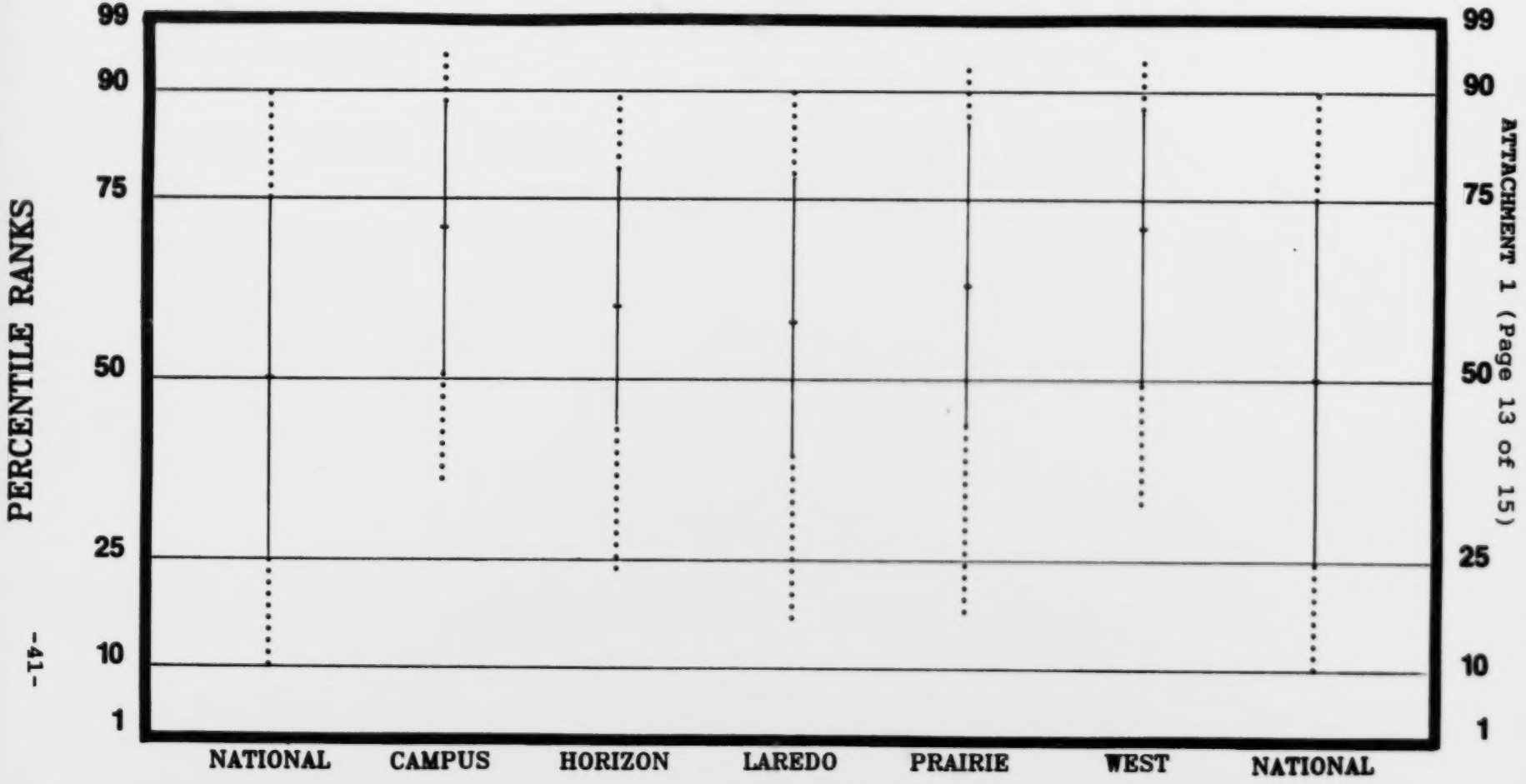
1986/1987



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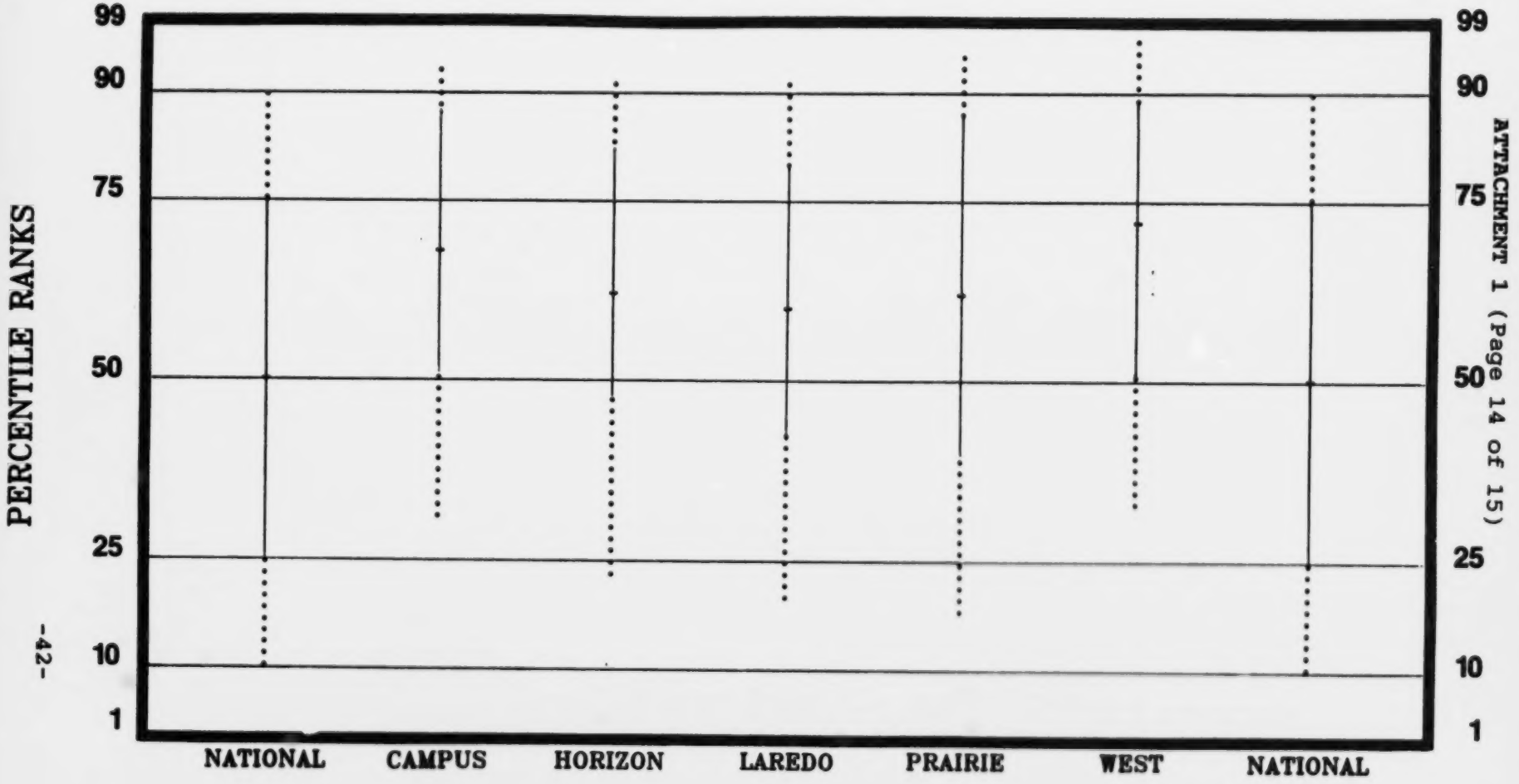
1986/1987



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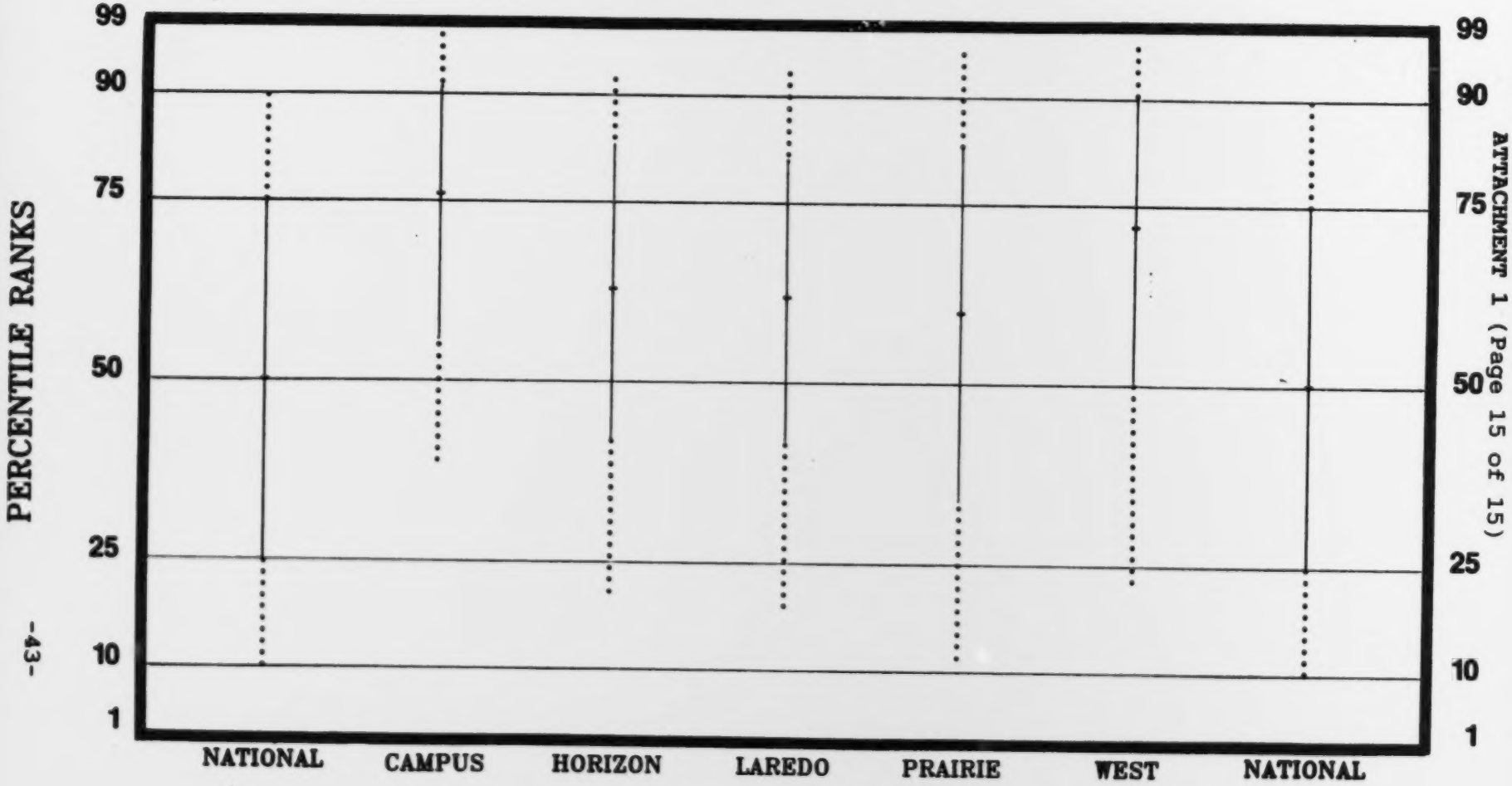
1986/1987



ATTACHMENT 1 (Page 15 of 15)

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 3

SCHOOL	TEST	PERCENTILE 10	25	50	75	90
Arrowhead	Vocabulary	16	37	60	81	94
	Reading	8	25	54	84	92
	Language Total	4	16	51	81	90
	Work/Study	12	27	58	82	94
	Math	7	27	56	84	91
Belleview	Vocabulary	42	68	82	92	96
	Reading	30	58	80	93	96
	Language Total	28	69	82	92	98
	Work/Study	55	75	90	97	99
	Math	40	68	86	97	98
Cherry Hills Village	Vocabulary	29	51	75	92	94
	Reading	30	55	78	92	97
	Language Total	37	66	80	89	97
	Work/Study	35	55	79	92	98
	Math	21	62	80	90	98
Cimarron	Vocabulary	20	33	58	81	88
	Reading	15	33	58	78	88
	Language Total	8	35	55	71	90
	Work/Study	10	32	55	78	91
	Math	14	34	58	81	92
Cottonwood	Vocabulary	40	54	72	88	92
	Reading	33	54	76	88	96
	Language Total	44	65	81	92	95
	Work/Study	40	55	74	88	95
	Math	29	53	73	85	96
Creekside	Vocabulary	25	41	71	87	96
	Reading	25	50	73	88	96
	Language Total	22	47	73	89	96
	Work/Study	37	57	75	88	95
	Math	25	48	72	87	97
Cunningham	Vocabulary	20	35	65	88	94
	Reading	20	46	69	85	96
	Language Total	17	44	63	80	87
	Work/Study	18	35	59	80	92
	Math	11	34	64	86	97

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 3

SCHOOL	TEST	PERCENTILE 10	25	50	75	90
Dry Creek	Vocabulary	40	58	76	91	94
	Reading	25	51	74	85	96
	Language Total	37	59	76	90	95
	Work/Study	41	62	77	88	93
	Math	39	51	76	90	97
Eastridge	Vocabulary	20	33	59	81	88
	Reading	9	25	53	77	92
	Language Total	6	27	60	85	95
	Work/Study	10	23	58	90	98
	Math	8	26	58	84	97
Greenwood	Vocabulary	16	43	66	85	93
	Reading	26	50	74	92	95
	Language Total	16	28	64	88	92
	Work/Study	20	41	72	91	95
	Math	12	33	69	89	98
Heritage	Vocabulary	32	62	74	85	94
	Reading	25	58	71	85	93
	Language Total	43	59	72	86	91
	Work/Study	32	55	71	84	94
	Math	35	54	72	84	92
High Plains	Vocabulary	35	51	74	88	96
	Reading	28	53	68	83	88
	Language Total	39	63	77	90	94
	Work/Study	41	62	79	88	97
	Math	41	62	75	86	95
Holly Hills	Vocabulary	47	68	81	93	96
	Reading	40	67	82	93	95
	Language Total	46	71	85	94	97
	Work/Study	53	71	83	92	96
	Math	40	74	81	89	95
Homestead	Vocabulary	60	76	85	94	98
	Reading	57	67	85	94	97
	Language Total	56	69	84	92	97
	Work/Study	54	75	86	95	97
	Math	38	67	84	93	97

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 3

SCHOOL	TEST	PERCENTILE 10	25	50	75	90
Independence	Vocabulary	30	51	71	88	93
	Reading	23	40	65	83	94
	Language Total	33	44	69	84	93
	Work/Study	23	43	71	87	95
	Math	21	48	71	90	96
Indian Ridge	Vocabulary	31	54	72	85	94
	Reading	20	40	64	85	94
	Language Total	23	41	67	84	91
	Work/Study	19	41	64	87	93
	Math	8	29	58	81	92
Meadow Point	Vocabulary	24	44	67	85	94
	Reading	13	31	63	83	96
	Language Total	22	47	73	90	97
	Work/Study	28	49	72	88	95
	Math	16	39	69	86	97
Mission Viejo	Vocabulary	37	54	75	85	92
	Reading	35	58	73	88	95
	Language Total	47	66	71	90	95
	Work/Study	47	62	77	88	97
	Math	32	53	70	88	96
Polton	Vocabulary	29	60	78	92	97
	Reading	24	36	74	92	96
	Language Total	53	76	88	96	98
	Work/Study	46	71	86	95	99
	Math	29	58	78	91	98
Ponderosa	Vocabulary	16	32	56	76	92
	Reading	13	24	54	79	92
	Language Total	10	25	52	73	84
	Work/Study	8	25	51	75	91
	Math	4	17	51	78	92
Sagebrush	Vocabulary	24	54	79	94	98
	Reading	35	56	81	94	97
	Language Total	47	75	86	94	99
	Work/Study	38	61	85	96	99
	Math	47	65	85	95	99

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 3

SCHOOL	TEST	PERCENTILE 10	25	50	75	90
Sunrise	Vocabulary	12	30	51	85	93
	Reading	4	22	53	81	94
	Language Total	3	16	50	75	88
	Work/Study	10	28	53	78	91
	Math	6	21	50	72	88
Timberline	Vocabulary	5	30	51	76	88
	Reading	4	17	44	75	86
	Language Total	6	22	59	86	92
	Work/Study	13	29	56	82	93
	Math	11	29	57	81	93
Trails West	Vocabulary	20	54	72	88	94
	Reading	22	44	72	92	96
	Language Total	22	43	67	86	94
	Work/Study	18	45	68	87	95
	Math	8	30	57	78	92
Village East	Vocabulary	28	51	69	88	95
	Reading	22	40	62	79	92
	Language Total	32	45	69	87	93
	Work/Study	41	52	74	90	95
	Math	36	48	74	92	98
Walnut Hills	Vocabulary	20	53	71	88	94
	Reading	15	46	70	85	97
	Language Total	28	57	77	93	97
	Work/Study	14	41	71	91	95
	Math	17	53	68	86	95
Willow Creek	Vocabulary	40	62	74	85	92
	Reading	33	52	76	88	96
	Language Total	44	64	78	90	92
	Work/Study	41	59	80	90	97
	Math	38	58	75	88	97

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 5

		PERCENTILE				
		10	25	50	75	90
SCHOOL	TEST					
Arrowhead	Vocabulary	21	35	61	80	94
	Reading	16	31	58	79	91
	Language Total	14	30	52	74	87
	Work/Study	24	39	60	80	87
	Math	17	35	54	75	87
Belleview	Vocabulary	37	64	75	89	94
	Reading	51	59	77	89	94
	Language Total	44	62	80	91	95
	Work/Study	37	64	76	88	97
	Math	44	66	85	93	98
Cherry Hills Village	Vocabulary	38	64	78	90	96
	Reading	28	53	74	90	97
	Language Total	31	57	77	91	96
	Work/Study	35	57	73	88	95
	Math	26	49	77	94	98
Cimarron	Vocabulary	17	42	58	78	91
	Reading	19	38	59	77	86
	Language Total	12	31	53	75	85
	Work/Study	13	34	57	78	89
	Math	15	33	55	75	87
Cottonwood	Vocabulary	48	64	79	91	98
	Reading	36	52	74	88	97
	Language Total	46	62	80	92	98
	Work/Study	34	51	74	88	97
	Math	46	59	82	92	99
Creekside	Vocabulary	32	48	69	86	96
	Reading	38	46	67	82	94
	Language Total	28	49	67	83	92
	Work/Study	29	49	68	87	95
	Math	36	49	76	90	97
Cunningham	Vocabulary	17	35	57	78	91
	Reading	19	36	59	77	90
	Language Total	8	30	57	82	93
	Work/Study	18	39	61	82	94
	Math	15	42	60	83	90

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 5

		PERCENTILE				
		10	25	50	75	90
SCHOOL	TEST					
Dry Creek	Vocabulary	48	62	80	94	98
	Reading	48	61	81	90	97
	Language Total	40	62	77	93	96
	Work/Study	38	64	75	87	95
	Math	28	50	72	88	96
Eastridge	Vocabulary	13	29	54	78	91
	Reading	15	31	59	84	93
	Language Total	15	32	54	76	88
	Work/Study	19	37	59	84	91
	Math	13	32	60	84	95
Greenwood	Vocabulary	40	61	76	91	96
	Reading	43	66	81	90	99
	Language Total	41	58	76	89	94
	Work/Study	50	64	79	88	94
	Math	46	63	80	92	97
Heritage	Vocabulary	52	65	83	94	98
	Reading	48	67	81	90	98
	Language Total	40	59	78	93	98
	Work/Study	44	62	81	93	97
	Math	42	61	80	92	98
High Plains	Vocabulary	43	56	75	88	98
	Reading	37	57	74	88	96
	Language Total	40	61	76	87	94
	Work/Study	39	62	74	87	94
	Math	46	65	82	92	98
Holly Hills	Vocabulary	37	55	75	90	98
	Reading	32	52	77	93	97
	Language Total	35	60	75	88	96
	Work/Study	31	59	73	92	97
	Math	24	47	72	88	97
Homestead	Vocabulary	46	57	78	91	97
	Reading	29	57	72	88	97
	Language Total	23	49	70	90	95
	Work/Study	34	55	70	87	91
	Math	27	52	73	90	98

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 5

SCHOOL	TEST	PERCENTILE 10	25	50	75	90
Independence	Vocabulary	27	48	69	91	96
	Reading	21	38	68	88	96
	Language Total	23	30	66	90	97
	Work/Study	28	39	68	88	96
	Math	22	36	67	88	92
Indian Ridge	Vocabulary	33	53	68	82	93
	Reading	23	48	66	80	94
	Language Total	30	53	72	89	95
	Work/Study	25	51	68	88	95
	Math	20	46	72	91	98
Meadow Point	Vocabulary	28	50	67	80	91
	Reading	25	50	68	86	93
	Language Total	35	57	78	93	97
	Work/Study	52	60	78	90	94
	Math	46	63	84	94	98
Mission Viejo	Vocabulary	24	48	68	86	94
	Reading	27	52	69	82	93
	Language Total	32	49	67	82	92
	Work/Study	34	50	68	82	93
	Math	29	42	63	80	90
Polton	Vocabulary	28	57	77	91	96
	Reading	21	52	73	88	96
	Language Total	22	49	69	90	96
	Work/Study	21	44	71	87	97
	Math	26	52	76	91	96
Ponderosa	Vocabulary	20	40	66	89	96
	Reading	16	38	64	86	93
	Language Total	18	37	59	82	91
	Work/Study	18	29	61	82	92
	Math	17	35	68	90	97
Sagebrush	Vocabulary	44	57	76	91	96
	Reading	31	56	76	93	96
	Language Total	32	53	75	90	96
	Work/Study	39	60	73	85	92
	Math	44	63	77	88	95

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 5

		PERCENTILE				
		10	25	50	75	90
SCHOOL	TEST					
Sunrise	Vocabulary	23	43	60	78	91
	Reading	14	41	57	77	89
	Language Total	11	29	56	78	90
	Work/Study	15	39	58	76	88
	Math	8	29	58	85	95
Timberline	Vocabulary	24	50	64	82	91
	Reading	9	27	59	86	97
	Language Total	24	44	67	86	95
	Work/Study	19	33	62	87	94
	Math	26	44	73	88	98
Trails West	Vocabulary	40	56	74	89	94
	Reading	43	60	74	88	94
	Language Total	39	51	73	90	97
	Work/Study	39	59	71	87	95
	Math	23	46	68	85	94
Village East	Vocabulary	31	48	71	82	96
	Reading	14	43	63	80	94
	Language Total	26	40	64	86	92
	Work/Study	29	55	72	89	96
	Math	20	51	68	88	92
Walnut Hills	Vocabulary	45	64	78	88	96
	Reading	44	57	77	90	95
	Language Total	35	60	77	91	97
	Work/Study	45	60	74	85	93
	Math	39	58	73	83	95
Willow Creek	Vocabulary	51	66	82	92	98
	Reading	48	63	83	93	98
	Language Total	39	55	75	86	96
	Work/Study	51	64	83	94	98
	Math	33	54	79	94	98

SELECTED PERCENTILE RANKS & CORRESPONDING RANKS
FOR CHERRY CREEK SCHOOLS

GRADE 7

SCHOOL	TEST	PERCENTILE 10	25	50	75	90
Campus Middle Unit	Vocabulary	40	53	72	86	95
	Reading	41	53	71	86	95
	Language Total	36	51	71	88	95
	Work/Study	31	51	68	87	93
	Math	39	56	76	91	98
Horizon	Vocabulary	20	43	58	76	92
	Reading	24	41	61	80	91
	Language Total	24	44	60	79	89
	Work/Study	23	48	62	82	91
	Math	21	42	63	83	92
Laredo	Vocabulary	24	45	61	76	92
	Reading	20	44	58	78	89
	Language Total	17	40	58	78	90
	Work/Study	20	42	60	80	91
	Math	19	42	62	81	93
Prairie	Vocabulary	17	43	59	82	92
	Reading	17	41	62	84	94
	Language Total	18	44	63	86	93
	Work/Study	18	40	62	87	95
	Math	12	34	60	83	96
West	Vocabulary	38	53	71	86	95
	Reading	38	53	71	86	95
	Language Total	33	50	71	87	94
	Work/Study	33	51	72	89	97
	Math	23	51	72	90	97

ATTACHMENT 3

1986-87 TESTING DATES

Grade(s)	Test*	Dates**
3 and 5	ITBS	January 26 - February 6
1, 3, 5	CogAT	January 5 - February 12
10	Language Arts	April 13 - 17
3 and 6	Language Arts	April 20 - 24
3 and 6	Mathematics	May 4 - 8
5	Social Studies	May 4 - 8
7	ITBS and CogAT	April 27 - May 8
8	Language Arts, Mathematics and Social Studies	April 27 - May 8
8, 9-12	Algebra 1	May 4 - 6
7 and 8	Science	End of semesters

* The ITBS and CogAT are nationally normed standardized tests. The other tests listed are locally developed objective-referenced assessments designed to measure essential objectives in Cherry Creek curricula.

** Dates listed are for schools on the conventional calendar. Students attending year-round schools were tested during the comparable week of their school year.

CHERRY CREEK SCHOOL DISTRICT NO. 5

OBJECTIVE SUMMARY REPORT

CRTS090B
06/03/87

KEY	OBJ #	DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
LA030005	RA2A1	USE PHONICS-SHORT VOWELS			75.58
LA030006	RA2A2	USE PHONICS-DIGRAPHS			91.19
LA030007	RA2A3	USE PHONICS-DIPHTHONGS			65.23
LA030008	RA2A4	USE PHONICS-BLENDS			91.39
LA030009	RA2A5	USE PHONICS-ENDING CONSONANTS			70.06
LA030010	RA2A6	USE PHONICS-LONG VOWELS			79.58
LA030011	RA2A7	USE PHONICS-MEDIAL CONSONANTS			87.56
LA030012	RA2A8	USE PHONICS-BEGINNING CONSONANTS			85.84
LA030013	RA2A9	USE PHONICS-SILENT LETTERS			90.59
LA030014	RA3A1	USE STRUCTURAL ANALYSIS-CONTRACTIONS			77.90
LA030015	RA3A2	USE STRUCTURAL ANALYSIS-SUFFIXES			78.67
LA030016	RA3A3	USE STRUCTURAL ANALYSIS-RHYMING WORDS			76.51
LA030017	RA3A4	USE STRUCTURAL ANALYSIS-WORD ENDINGS			76.06
LA030018	RA3A5	USE STRUCTURAL ANALYSIS-PLURALS			90.82
LA030019	RA3A6	USE STRUCTURAL ANALYSIS-COMPOUND WORDS			93.61
LA030020	RA3A7	USE STRUCTURAL ANALYSIS-PREFIXES			72.75
LA030021	RB2A	IDENTIFY STORY AS FACT OR FANTASY			82.44
LA030022	RB2B	CLASSIFY OBJECTS AND IDEAS BY SIMILARITIES			89.80
LA030023	RB2C	IDENTIFY LITERAL MEANING OF STORY			82.97
LA031024	RB2E	SEQUENCE PARTS OF A STORY			83.18
LA030025	RB3A1	IDENTIFY DETAILS IN A STORY			83.84
LA030026	RB3A2	IDENTIFY MAIN IDEA OF A STORY			59.80
LA031037	SA3A	RESPOND TO 2 TO 4 STEP DIRECTIONS			92.78
LA030036	SB1A	USE THE DICTIONARY TO FIND WORDS & MEANINGS			87.80
LA030028	CB2B	IDENTIFY MEANING OF WORD IN CONTEXT			78.59
LA030029	CC1A	IDENTIFY OUTCOME OF STORY			85.14
LA031031	WA1C	WRITE A SENTENCE ABOUT A GIVEN TOPIC			80.13
LA030032	WB3A	USE MAPS AND GRAPHS			85.42
LA031033	WC1A	USE CORRECT PENMANSHIP			66.82
LA031034	WC3A	SPELL SIGHT WORDS			68.47
LA031038	WC4D	USE CAPITALS--BEGIN SENT., PROPER NAMES, I			88.34

NUMBER OF STUDENTS IN SAMPLE: 1938

ATTACHMENT 4 (Page 1 of 2)
1986-87 GRADE 3 LANGUAGE ARTS ASSESSMENT RESULTS

ATTACHMENT 4 (Page 2 of 2)

1986-87 Grade 3 Language Arts Results, By School

OBJ # →	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	37	36	28	29	31	32	33	34	38
Arrowhead	72	90	57	85	67	74	82	81	84	75	73	72	66	87	91	62	75	(89)	77	78	74	54	92	84	78	75	82	78	60	57	80
Bellaview	82	96	77	96	78	87	94	94	98	81	89	(87)	88	94	96	86	85	94	(99)	(96)	91	66	(100)	92	80	91	81	91	71	86	98
Cherry Hills Village	79	90	71	89	69	82	90	90	89	80	87	78	87	93	97	84	82	92	85	93	89	64	94	92	78	95	79	86	71	74	93
Cimarron	73	89	66	90	63	78	85	82	91	73	78	71	70	89	92	64	78	87	77	71	77	59	84	81	74	78	73	82	67	58	91
Cottonwood Creek	78	93	71	94	78	87	88	88	92	75	65	81	64	94	96	63	83	92	86	93	86	60	95	92	87	88	84	83	69	(79)	98
Creekside	80	93	68	95	83	88	92	93	96	81	81	78	79	94	98	72	84	93	89	85	88	63	92	90	88	88	84	87	67	69	89
Cunningham	70	88	55	90	68	72	85	80	85	76	67	70	63	91	87	(56)	82	90	83	80	81	54	84	85	72	81	75	84	69	54	80
Dry Creek	75	90	65	93	76	84	87	88	93	85	90	82	87	88	94	81	(89)	93	88	86	88	62	94	92	83	90	88	91	64	74	93
Eastridge	(69)	85	(51)	(85)	(57)	(63)	(77)	77	(83)	(68)	69	(64)	64	84	(85)	60	(74)	81	73	(63)	(70)	(51)	90	80	(67)	(71)	(67)	77	54	51	(71)
Greenwood	77	91	63	91	66	78	89	87	92	80	81	76	78	92	95	74	84	90	83	84	86	60	92	87	80	86	80	86	66	72	93
Heritage	74	94	71	(99)	76	90	92	93	94	78	82	80	80	87	89	78	84	94	85	87	89	65	(100)	93	81	84	83	93	59	80	89
High Plains	82	96	70	96	71	85	90	89	90	80	81	80	78	95	97	79	86	89	90	80	90	61	95	93	82	92	81	(92)	66	81	94
Holly Hills	83	96	57	94	73	86	93	89	94	79	89	82	88	97	99	88	82	95	80	94	90	67	94	(97)	(89)	91	91	91	89	86	(98)
Homestead	81	94	73	94	70	84	87	89	95	83	86	86	79	96	96	75	87	93	90	92	91	(95)	96	90	(91)	92	89	91	55	87	93
Independence	75	93	67	93	71	78	90	82	89	79	81	77	77	95	92	75	88	96	88	85	89	58	90	82	73	90	81	89	61	69	92
Indian Ridge	75	92	55	93	76	78	91	91	93	80	83	74	79	87	96	82	82	88	84	83	84	62	92	92	84	86	86	89	90	65	96
Meadow Point	79	92	62	89	76	81	88	86	91	79	83	78	84	91	95	79	83	92	81	85	83	56	99	91	74	80	84	84	(98)	69	91
Mission Viejo	76	95	78	92	76	85	91	92	94	81	91	83	78	92	95	73	82	91	84	83	87	57	97	89	79	89	82	88	76	70	91
Polton	75	90	67	93	69	79	86	85	89	77	(63)	76	(61)	93	96	64	79	89	86	87	85	54	94	85	85	87	88	87	(92)	65	96
Ponderosa	77	90	67	90	65	83	89	93	91	76	68	72	71	89	91	71	82	86	76	78	85	60	98	84	77	84	70	83	62	64	80
Sagebrush	(90)	(99)	(85)	98	(96)	(92)	(99)	(100)	(97)	(86)	(94)	87	(93)	(98)	99	(92)	87	(97)	92	95	(93)	66	92	94	89	(98)	(98)	91	90	74	(100)
Sunrise	66	86	58	88	58	68	81	80	84	73	78	66	72	85	87	63	76	83	76	76	73	54	(88)	(78)	69	73	68	(71)	53	50	77
Timberline	74	(83)	57	86	60	74	80	80	86	76	70	67	67	88	92	68	80	84	(72)	80	75	53	(83)	87	71	81	75	85	61	(74)	76
Trails West	74	89	60	91	68	78	86	84	90	72	81	77	81	90	94	77	80	92	81	84	83	66	91	89	79	84	75	86	72	73	90
Village East	79	92	60	90	70	72	90	82	91	78	80	75	74	(82)	97	63	87	94	81	88	84	61	95	91	76	88	83	85	76	66	88
Walnut Hills	76	90	61	91	59	80	84	(76)	90	83	81	78	77	92	(99)	77	88	92	89	88	(88)	59	96	88	78	86	84	89	72	74	92
Willow Creek	72	95	70	93	71	84	90	88	94	81	88	83	85	93	95	85	87	94	87	86	88	64	98	91	78	91	82	89	67	83	93

ATTACHMENT 5

1986-87 GRADE 6 LANGUAGE ARTS ASSESSMENT RESULTS

OBJECTIVE SUMMARY REPORT — CHERRY CREEK SCHOOL DISTRICT NO. 5 — CRTS090B 06/18/87

KEY		DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
LA061023	WA1C	WRITE SIMPLE SENTENCES			85.41
LA061024	WA2B	WRITE A PARAGRAPH			71.53
~~LA061025~~	~~WA3A~~	~~WRITE A STORY WITH BEGIN, MIDDLE, END~~			~~47.58~~
LA060002	WA4A	USE THE DICTIONARY			80.93
LA060030	WA4D	IDENTIFY MAIN IDEAS IN WRITTEN MATERIAL			63.47
~~LA061035~~	~~WC1A~~	~~WRITE IN CURSIVE~~			~~85.20~~
LA061027	WC3A	SPELL CORRECTLY			69.59
LA060003	WC4A1	IDENTIFY ADJECTIVES			68.42
~~LA060004~~	~~WC4A2~~	~~IDENTIFY NOUNS~~			~~72.52~~
LA060005	WC4A3	IDENTIFY PRONOUNS			67.71
LA060006	WC4A4	IDENTIFY VERBS			70.95
~~LA060031~~	~~WC4C1~~	~~IDENTIFY SUBJECT/VERB AGREEMENT~~			~~75.69~~
LA060032	WC4C2	IDENTIFY VERB FORMS			88.54
LA060037	WC4D	IDENTIFY CORRECT CAPITALIZATION			86.38
~~LA061036~~	~~SA3A~~	~~FOLLOW WRITTEN DIRECTIONS~~			~~72.12~~
LA060033	SB2A	USE TEXTBOOKS AND ENCYCLOPEDIAS			66.78
LA060034	SB3A	EFFECTIVELY USE THE CARD CATALOG			78.19
~~LA060009~~	~~CB2B~~	~~IDENTIFY MEANING OF AN UNFAMILIAR WD IN CONTEXT~~			~~78.02~~
LA060010	RA2A	APPLY PHONICS-VOWEL VARIANCE			67.38
LA060011	RA3A1	APPLY STRUCTURAL ANALYSIS-PREFIXES			81.54
~~LA060012~~	~~RA3A2~~	~~APPLY STRUCTURAL ANALYSIS-SUFFIXES~~			~~75.92~~
LA060013	RA3A3	APPLY STRUCTURAL ANALYSIS-POSSESSIVES			59.42
LA060014	RA3A4	APPLY STRUCTURAL ANALYSIS-ROOT WORDS			82.19
~~LA060015~~	~~RB2A1~~	~~IDENTIFY GENERALIZATIONS~~			~~68.73~~
LA060016	RB2A2	DRAW CONCLUSIONS			87.05
LA060017	RB2A3	DISTINGUISH BETWEEN FACT AND FICTION			73.04
~~LA060018~~	~~RB2C~~	~~DISTINGUISH BETWEEN LITERAL AND IMPLIED IDEAS~~			~~63.76~~
LA060019	RB2E	IDENTIFY THE SEQUENCE OF MAIN IDEAS			88.62
LA060020	RB3A	IDENTIFY SUPPORTING DETAILS			68.59

NUMBER OF STUDENTS IN SAMPLE: 1858

OBJECTIVE SUMMARY REPORT

CHERRY CREEK SCHOOL DISTRICT NO. 5

CRTS090B
06/04/87

1986-87 GRADE 8 LANGUAGE ARTS ASSESSMENT RESULTS

KEY		DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
LA081041	WA1C	WRITE A STRUCTURALLY CORRECT SIMPLE SENTENCE			95.55
LA081042	WA1C	WRITE A STRUCTURALLY CORRECT COMPOUND SENTENCE			89.90
LA081043	WA4D	TAKE ACCURATE NOTES			83.43
LA081044	WA2B	WRITE A PARAGRAPH TO SUPPORT A TOPIC			84.41
LA080001	WA1B	IDENTIFY COMPLETE SENTENCES			93.36
LA080002	WA2A	IDENTIFY A UNIFIED PARAGRAPH			86.19
LA080003	WA4A	LOCATE INFORMATION IN THE DICTIONARY			88.42
LA080038	WC4A1	IDENTIFY NOUNS, VERBS, PRONOUNS, ADVERBS			86.81
LA080039	WC4A2	IDEN PREPOSIT, CONJUNCT, ADJECTIVE, INTERJECT			88.35
LA080008	WC4B	IDENTIFY SIMPLE SUBJECT AND SIMPLE PREDICATE			67.99
LA080025	WC4C1	IDENTIFY SUBJECT/VERB AGREEMENT			80.12
LA080026	WC4C2	IDENTIFY CORRECT VERB TENSE			90.68
LA080027	WC4D	IDENTIFY THE SENTENCE WITH CORRECT CAPITALS			78.80
LA080030	WC4E	IDENTIFY CORRECTLY PUNC. SENTENCES-APOSTROPHES			77.20
LA080028	WC4F	IDENTIFY CORRECT PUNCTUATION IN A SERIES			88.74
LA080029	WC4G	IDENTIFY CORRECT PUNCTUATION-QUOTATION MARKS			83.11
LA080033	SB3A	USE THE READER'S GUIDE			79.88
LA080031	CA1A	IDENTIFY INFO. THAT SUBSTANTIATES PURPOSE			86.06
LA080037	CB1A	DISTINGUISH FACT FROM OPINION			87.07
LA080032	CD1A	IDEN MEAN OF MATERIAL IN FUNCTIONAL SITUATIONS			87.33
LA080017	RB2E	IDENTIFY DETAILS THAT SUPPORT THE MAIN IDEA			80.32
LA080040	RC1B	RECOG FICTION ELEMENTS: PLOT/SETTING/CHARACTER			74.16
		NUMBER OF STUDENTS IN SAMPLE:			1841

1986-87 GRADE 10 LANGUAGE ARTS ASSESSMENT RESULTS

OBJECTIVE SUMMARY REPORT

CHERRY CREEK SCHOOL DISTRICT NO. 5

CRTS090B
05/11/87

KEY		DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
LA101042	WA3A	WRITE A UNIFIED ESSAY			76.08
LA100035	WB3B	DOCUMENT RESEARCH INFO/DON'T PLAGIARIZE			81.87
LA100034	WB3C	USE RESEARCH INFO ACCURATELY			62.38
LA100002	WC4C	IDENTIFY CORRECT SUBJECT/VERB AGREEMENT			82.44
LA100025	WC4C	IDENTIFY CORRECT VERB FORM			79.07
LA100027	WC4	IDENTIFY CORRECTLY PUNCTUATED SENTENCES			72.81
LA100028	CA1A	IDENTIFY THE MOST APPROPRIATE SOURCE			81.10
LA100029	CA1D	CLASSIFY STATE. AS FACT, INFERENCE, OPINION			78.75
LA100033	CD1A	UNDERSTAND USE OF WORDS IN FUNCTIONAL SITUATION			90.60
LA100007	RB2A	IDENTIFY GENERALIZATIONS; VERIFY OR REFUTE INFO			76.36
LA100009	RB2D	IDENTIFY CAUSE/EFFECT RELATIONSHIPS			76.18
LA100030	RB2E	IDENTIFY MAIN IDEA AND SEQUENCE			82.26
LA100024	RB2E	ID TRANSITIONS, TOPIC SENTENCES, THESIS STATE.			63.46
LA100032	RB2F	IDEN INTENT; E.G., ENTERTAIN, PERSUADE, INFORM			81.40
LA100011	RB2E	IDENTIFY SUPPORTING DETAILS FOR A MAIN IDEA			75.51
LA100031	RC1B	IDENTIFY EFFECTS OF BASIC ELEMENTS OF FICTION			70.83
		NUMBER OF STUDENTS IN SAMPLE:			1936

ATTACHMENT 8

SCORING CRITERIA FOR SELECTED CONSTRUCTED RESPONSE ITEMS

GRADE 10 ESSAY

Excellent: Systematically defines and defends point-of-view with elaborate argument and addresses possible counter positions; introductory, supporting, and concluding paragraphs are unified and cohesive---achieving unity and coherence

Competent: Defines point-of-view with minimal argument and evidence; includes introductory, supporting, and concluding paragraphs

Unacceptable: Does not define and defend point-of-view; lacks an introductory, supporting, and/or summary paragraph

GRADE 8 PARAGRAPH

Excellent: Excellent paragraph with first line indented, a topic sentence, at least three supporting sentences, and a strong clincher

Acceptable: Acceptable paragraph with first line indented, a topic sentence, at least three supporting sentences, and an acceptable clincher

Unacceptable: Incorrect topic sentence, no topic sentence, or topic sentence used as title; Irrelevant supporting detail, lacking support; No clincher or unacceptable clincher; Spelling, sentence structure, or fragmentation which detracts from overall meaning; Not a paragraph, more than one paragraph, or first line not indented

GRADE 6 STORY WRITING

Acceptable: Acceptable story with beginning, middle, and end, logical sequence of events, and paragraph indentation

Unacceptable: Beginning, middle, and end with logical sequence of events, but first paragraph indentation missing; Story does not contain beginning or middle; Illogical sequence of events; Story does not contain end or logical end

ATTACHMENT 9

NUMBER AND PERCENT OF STUDENTS INCLUDED IN 1986-87 TEST AVERAGES*

Test**	Grade	Number Tested	Membership***	Percent Tested
ITBS	3	1941	2004	96.9%
ITBS	5	1926	1962	98.2%
ITBS	7	1874	1892	98.8%
Language Arts	3	1938	2000	96.9%
Language Arts	6	1858	2019	92.0%
Language Arts	8	1841	1943	94.8%
Language Arts	10	1936	2143	90.3%
Mathematics	3	1937	2007	96.5%
Mathematics	6	1866	2018	92.5%
Mathematics	8	1833	1943	94.3%
Social Studies	8	1759	1943	90.5%

* The percent of students included in averages is given for those tests and assessments which are not in a pilot test phase of development and which are given to all students in a particular grade. The number of students tested indicates how many different students took at least one part of that test which was included in the districtwide average.

** The ITBS is a nationally normed standardized test. The other tests listed are locally developed objective-referenced assessments.

*** Membership at the end of the week of testing. Students attending year-round schools are tested on different dates, but comparable weeks in their calendar. The membership used to calculate the percent tested for elementary school tests was the date of testing for conventional-calendar schools.

OBJECTIVE SUMMARY REPORT

CHERRY CREEK SCHOOL DISTRICT NO. 5

CRTS0908
06/11/87

KEY		DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
MA030040	A5	ID ORDINAL NOS. FROM 1-100			73.67
MA030041	A6	ID SIGN TO MAKE NO. SENTENCE CORRECT			84.75
MA030042	A8	WRITE NOS. SKIP COUNTING BY 2'S, 5'S, 10'S			94.32
MA030043	A9	ID NO. WORDS FOR NUMERALS & WRITE NOS. FOR NUMERAL			91.33
MA030044	A11	ID PLACE VALUE IN NOS. TO 10,000			81.72
MA030045	A12	ID EXPANDED NOTATION FOR NOS. 1-10,000			66.08
MA030046	B1	ID ODD & EVEN NOS., 1-1000			59.47
MA030047	B3	WRITE + OR - FACTS TO 18			94.56
MA030048	B3	WRITE X FACTS TO 81			93.25
MA030049	B4	ID INVERSE OF ADD & SUB. FACTS THROUGH 18			30.15
MA030050	B5	WRITE MISSING ADDEND FOR ADD & SUB EQUATIONS TO 18			90.38
MA030051	B9	ID PRODUCT OF 2 DIGITS BY 1 DIGIT W/O REGROUPING			81.41
MA030052	B10	ID QUOTIENT OF 2 DIGITS BY 1 DIGIT W/O REMAINDER			80.47
MA030053	C1	ID FIGURE WHICH REPRESENTS FRACTION			83.17
MA030054	C2	ID WORD NAMES FOR 1/2,1/4,1/3,1/5			79.04
MA030055	C4	WRITE FRAC. FOR ONE HALF, THIRD, FOURTH, FIFTH			84.87
MA030056	C6	ID EQUIVALENT FRACTIONS			27.57
MA030057	C14	ID DECIMAL FORM OF MONEY TO $1.00			45.28
MA030058	C15	ADD & SUB MONEY VALUES TO $1.00 W & W/O REGROUPING			84.01
MA030059	D1	ID TIME TO QTR HOUR			80.49
MA030060	D3	ESTIMATE LENGTH-INCHES OR CENTIMETERS			50.67
MA030061	D10	ADD OR SUB 2 LINEAR MEAS			76.66
MA030062	D11	ID VALUE OF SET OF PICTURED COINS			89.31
MA030063	E1	READ PICTURE & BAR GRAPHS & TABLES			71.02
MA030065	F1	ID BASIC SHAPES & USE GEOM TERMS			79.25
MA030067	G1	RECOGNIZE NO. PATTERNS & SEQUENCE,NOS. 1-10,000			88.13
MA030068	G3	ID SOLUTION TO + OR - WORD PROB. & PROCESS TO SOLV			85.79
		NUMBER OF STUDENTS IN SAMPLE:			1937

OBJECTIVE SUMMARY REPORT — CHERRY CREEK SCHOOL DISTRICT NO. 5 — CRTS090B 06/03/87

1986-87 GRADE 6 MATHEMATICS ASSESSMENT RESULTS

KEY		DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
MA060050	A5	ID PRIME & COMPOSITE NOS.			57.88
MA060051	A6	ID SIGN TO MAKE CORRECT NO. SENT.			89.34
MA060052	A9	READ & WRITE NOS. TO 1 MILLION			71.86
MA060053	A10	ROUND NOS. TO 10'S OR 100'S			81.48
MA060054	A11	ID PLACE VALUE IN NOS. TO 1 MILLION			85.53
MA060055	B4	ID EQUATION WHICH SHOWS INVERSE OF MULT. OR DIV.			44.75
MA060056	B8	ADD & SUB. MULTI-DIGIT NOS. WITH REGROUPING			88.02
MA060057	B9	MULT. MULTI-DIGIT NOS. WITH REGROUPING			84.74
MA060058	B10	DIV. MULTI-DIGIT NOS. WITH REMAINDERS			83.89
MA060059	B11	ESTIMATE PRODUCT OR QUOTIENT OF TWO NOS.			72.86
MA060060	C1	ID FRAC. TO 12/12 AS = PARTS OF A WHOLE			95.32
MA060061	C4	READ & WRITE FRAC. TO 12THS			97.11
MA060062	C6	ID EQUIV. FRAC. INCL. MIXED NOS.			77.71
MA060063	C7	LIST FRAC. IN ORDER			47.37
MA060064	C8	ADD FRAC. WITH UNLIKE DENOM., INCL. MIXED NOS.			64.88
MA060065	C9	SUB FRAC. WITH UNLIKE DENOM., INCL. MIXED NOS.			66.29
MA060066	C10	MULTIPLY FRAC., INCL. MIXED NOS.			70.17
MA060068	C15	ADD & SUB. MONEY WITH REGROUPING			85.74
MA060069	C16	READ & WRITE DECIMALS TO HUNDRED THOUSANDTHS			68.38
MA060070	C20	ADD & SUB. DECIMALS TO THOUSANDTHS			78.55
MA060071	C21	MULTIPL DECIMALS TO THOUSANDTHS & UP			74.71
MA060072	C22	DIVIDE DECIMALS TO HUNDREDTHS BY TENTHS			79.56
MA060073	D4	MEASURE-ENGLISH & METRIC			69.77
MA060074	D7	READ TEMPERATURES-FAHRENEIT & CELSIUS			35.48
MA060075	D9	ID EQUIV. MEAS. IN BOTH ENGLISH & METRIC			44.59
MA060076	E1	READ GRAPHS, CHARTS & TABLES			87.62
MA060077	E2	COMPUTE AVERAGE			62.81
MA060078	E5	ID ORDERED PAIRS IN COORDINATE SYSTEM			43.30
MA060079	F1	ID BASIC GEOM. SHAPES & TERMS			91.43
MA060080	F2	USE LETTERS TO NAME A GIVEN FIGURE			69.88
MA060081	F4	CONSTRUCT GEOM. FIGURE			79.69
MA060082	F6	COMPUTE AREA-ENGLISH & METRIC			60.29
MA060083	G2	ID SOLUTION TO STORY PROBLEM			77.63
MA060084		ID PROCESS USED TO SOLVE STORY PROBLEM			82.35
		NUMBER OF STUDENTS IN SAMPLE:			1866

CHERRY CREEK SCHOOL DISTRICT NO. 5

OBJECTIVE SUMMARY REPORT

CRTS0908
05/21/87

KEY	DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
MA080062	ADD/SUB 2 OR MORE WHOLE NOS./NO LIMIT ON NO. OF DIGITS			94.24
MA080066	MULT/DIV WHOLE NOS. INCL. WRITING REMAINDER AS FRAC.			90.72
MA080069	AVERAGE 2 OR MORE WHOLE NOS.			82.97
MA080080	COMPARE FRACTIONS BY FINDING COMMON DENOM.			76.50
MA080070	SOLVE WORD PROBLEM INVOLVING WHOLE NOS.			88.65
MA080090	ADD FRACTIONS WITH UNLIKE DENOMS.			93.07
MA080105	ADD/SUB MIXED NOS.			75.82
MA080110	SUB FRACTIONS WITH UNLIKE DENOMS.			87.45
MA080135	MULT/DIV SIMPLE FRACTIONS			87.77
MA080145	MULT/DIV MIXED NOS.			72.95
MA080170	SOLVE WORD PROBLEM INVOLVING FRACTIONS			81.74
MA080180	ID DECIMAL NUMERALS FOR A NO. WORD TO MILLIONTHS			78.22
MA080195	ADD/SUB DECIMALS			93.70
MA080210	MULT 2 DECIMALS WITH NO LIMIT ON NO. OF DIGITS			87.94
MA080235	DIV DECIMALS OF THE TYPE 4.56/3 OR 5.6/.04			89.52
MA080250	CHANGE TERMINATING DECIMALS TO PROPER FRACTIONS			85.48
MA080260	CHANGE PROPER FRACTIONS TO TERMINATING DECIMALS			81.58
MA080270	CHANGE IMPROPER FRAC OR MIXED NOS. TO TERMINATING DECI			77.02
MA080280	SOLVE WORD PROBLEM INVOLVING DECIMALS			80.62
MA080340	WRITE AND SIMPLIFY RATIOS			89.49
MA080350	RECOGNIZE A PROPORTION			71.67
MA080360	SOLVE A PROPORTION			84.22
MA080370	CHANGE A FRACTION TO A PERCENT			76.97
MA080380	CHANGE A DECIMAL TO A PERCENT			79.91
MA080390	SOLVE THE THREE TYPES OF PERCENT PROBLEMS			73.36
MA080400	FIND THE PERIMETER OF A POLYGON			88.18
MA080410	FIND CIRCUM. OF CIRCLE GIVEN FORMULA			86.74
MA080420	FIND AREA OF RECTANGLE			80.95
MA080430	FIND AREA OF CIRCLE, GIVEN FORMULA			72.38
MA080440	FIND VOL. OF CUBE OR RECTANGULAR PRISM			81.00
MA080455	SOLVE WORD PROBLEM INVOLVING PERM. OR AREA			72.52

NUMBER OF STUDENTS IN SAMPLE: 1832

OBJECTIVE SUMMARY REPORT — CHERRY CREEK SCHOOL DISTRICT NO. 5 — CRTS090B 06/03/87

KEY	DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
MA090030	PERFORM OPERATIONS WITH RATIONAL NOS.			94.84
MA090057	SOLVE AN EQUA. IN 1 VARIABLE			95.01
MA090032	SOLVE AN EQ OF 2 OR 2+ VARS FOR ONE IN TERMS OF OTHERS			73.35
MA090058	SOLVE AN INEQUALITY IN ONE VARIABLE			92.13
MA090034	SIMPLIFY A NUMERICAL EXP. INVOLVING ABSOLUTE VALUE			89.59
MA090035	SOLVE AN EQUA IN ONE VAR WHICH CONTAINS ABSOLUTE VALUE			81.47
MA090059	EVAL ALG EXP FOR A REPLACE VALUE			92.22
MA090038	PERFORM OPERATIONS ON POLYNOMIALS WITH INTEGRAL COEFFS			93.50
MA090062	SOLVE AN EQUA WITH RATIONAL POLYNOMIALS			64.72
MA090060	SIMPLIFY AN ALG EXP USING RATIONAL COEFFS			97.46
MA090039	COMPLETELY FACTOR POLYNOMIALS WITH INTEGRAL COEFFS			93.65
MA090063	SOLVE A POLYNOMIAL EQUA BY FACTORING			86.29
MA090040	ID GRAPH OF A POINT WHEN GIVEN ITS COORDINATES			93.91
MA090041	DETERMINE THE SLOPE & Y-INTER FROM GRAPH OF A LINE			73.86
MA090043	DETERMINE SLOPE OF LINE GIVEN COORD OF 2 POINTS			63.96
MA090044	DETERMINE SLOPE & Y-INTER FROM EQUA OF LINE			86.29
MA090045	DETERMINE IF A GIVEN POINT AND A GIVEN LINE COINCIDE			83.25
MA090046	SOLVE A SYSTEM OF LINEAR EQUAS			87.31
MA090064	TRANSLATE AN ENGLISH EXP INTO MATH STATEMENT			86.68
MA090047	SET UP AND/OR SOLVE WORD PROBLEMS			81.90
MA090048	USE LAWS OF EXPONENTS TO SIMPLIFY ALGEBRAIC EXP			82.06
MA090065	USE ZERO & NEG NOS. AS EXPO TO SIMPLIFY ALG EXP			87.31
MA090049	ID THE LCD FOR OPERATIONS WITH ALG EXP			82.23
MA090050	PERFORM OPERATIONS WITH RATIONAL EXP			79.29
MA090061	SOLVE A PROPORTION CONTAINING ONE VARIABLE			87.31
MA090052	SOLVE AN EQUA INVOLVING RATIONAL EXP			80.20
	NUMBER OF STUDENTS IN SAMPLE:			197

CHERRY CREEK SCHOOL DISTRICT NO. 5

OBJECTIVE SUMMARY REPORT

CRTS090B
05/19/87

KEY	DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
MA090030	PERFORM OPERATIONS WITH RATIONAL NOS.			80.96
MA090057	SOLVE AN EQUA. IN 1 VARIABLE			86.49
MA090032	SOLVE AN EQ OF 2 OR 2+ VARS FOR ONE IN TERMS OF OTHERS			45.61
MA090058	SOLVE AN INEQUALITY IN ONE VARIABLE			72.90
MA090034	SIMPLIFY A NUMERICAL EXP. INVOLVING ABSOLUTE VALUE			74.55
MA090035	SOLVE AN EQUA IN ONE VAR WHICH CONTAINS ABSOLUTE VALUE			36.67
MA090059	EVAL ALG EXP FOR A REPLACE VALUE			75.87
MA090038	PERFORM OPERATIONS ON POLYNOMIALS WITH INTEGRAL COEFFS			79.35
MA090062	SOLVE AN EQUA WITH RATIONAL POLYNOMIALS			43.03
MA090060	SIMPLIFY AN ALG EXP USING RATIONAL COEFFS			91.95
MA090039	COMPLETELY FACTOR POLYNOMIALS WITH INTEGRAL COEFFS			86.16
MA090063	SOLVE A POLYNOMIAL EQUA BY FACTORING			66.20
MA090040	ID GRAPH OF A POINT WHEN GIVEN ITS COORDINATES			87.66
MA090041	DETERMINE THE SLOPE & Y-INTER FROM GRAPH OF A LINE			59.38
MA090043	DETERMINE SLOPE OF LINE GIVEN COORD OF 2 POINTS			35.62
MA090044	DETERMINE SLOPE & Y-INTER FROM EQUA OF LINE			67.62
MA090045	DETERMINE IF A GIVEN POINT AND A GIVEN LINE COINCIDE			53.50
MA090046	SOLVE A SYSTEM OF LINEAR EQUAS			66.41
MA090064	TRANSLATE AN ENGLISH EXP INTO MATH STATEMENT			63.36
MA090047	SET UP AND/OR SOLVE WORD PROBLEMS			48.88
MA090048	USE LAWS OF EXPONENTS TO SIMPLIFY ALGEBRAIC EXP			67.03
MA090065	USE ZERO & NEG NOS. AS EXPO TO SIMPLIFY ALG EXP			70.44
MA090049	ID THE LCD FOR OPERATIONS WITH ALG EXP			83.78
MA090050	PERFORM OPERATIONS WITH RATIONAL EXP			59.47
MA090061	SOLVE A PROPORTION CONTAINING ONE VARIABLE			58.56
MA090052	SOLVE AN EQUA INVOLVING RATIONAL EXP			52.89
	NUMBER OF STUDENTS IN SAMPLE:			1572

OBJECTIVE SUMMARY REPORT — CHERRY CREEK SCHOOL DISTRICT NO. 5 — CRTS090B 05/21/87

KEY		DESCRIPTION	TEACHER %	SCHOOL %	DISTRICT %
MSSS0001	IA1	IDEN EXEC/LEGIS/JUDIC FUNCTIONS IN NATL GOVT			62.29
MSSS0002	IA2	LIST THREE BASIC LEVELS OF GOVT IN THE U.S.			80.30
MSSS0003	IA3	IDEN PURPOSE: CONSTIT/BILL RIGHTS/DECL OF INDE			70.91
MSSS0004	IA4	LOCATE CONTINENTS ON MAP OR GLOBE			91.93
MSSS0005	IA5	LOCATE CAPITAL OF COLORADO AND U.S. ON U.S. MAP			76.55
MSSS0006	IA6	LOCATE TWO COUNTRIES ON EACH CONTINENT			84.45
MSSS0007	IA7	LOCATE OCEANS AND MEDITER. SEA ON GLOBE/MAP			84.76
MSSS0040	IB1	UNDERSTAND CONCEPTS: INTERDEPENDENCE/SCARCITY			74.95
MSSS0012	IB2A	UNDERSTAND WHY ALL SOCIETIES NEED GOVERNMENT			82.49
MSSS0041	IB3	UNDERSTAND CONCEPT OF CONFLICT			81.41
MSSS0042	IB4	UNDERSTAND CONCEPT OF CULTURE			77.20
MSSS0016	IB4A	CULTURAL UNIVERSALS AS COMMON CONCERNS			71.44
MSSS0021	IB6A	UNDERSTAND THE CONCEPT OF ETHNOCENTRISM			75.63
MSSS0022	II1	SUMMARIZE MAIN IDEA(S) OF READING SEGMENTS			78.06
MSSS0023	II2	MAKE PREDICTIONS FROM A SET OF FACTS/DATA			65.15
MSSS0024	II3	DRAW CONCLUSIONS FROM A SET OF FACTS/DATA			83.77
MSSS0025	II4	DISTINGUISH BETWEEN FACTS AND OPINIONS			94.70
MSSS0026	II5	READ AND INTERPRET MAPS			72.56
MSSS0043	II6	READ/INTERPRET: GRAPH/CHART/POLITICAL CARTOON			83.64
MSSS0044	II6	READ/INTERPRET: TIMELINE			78.28
MSSS0028	II7	APPLY PROB-SOLV MODEL TO GIVEN SITUATION			76.18
MSSS0029	II8	RECOGNIZE CAUSE/EFFECT RELATIONS			84.85
MSSS0030	II9	GATHER INFORM: IDEN APPRO SOURCES/ASK RELE ?			82.64
MSSS0031	II10	DISTINGUISH BETW PRIMARY/SECONDARY SOURCES			70.49
MSSS0032	II11	LISTEN/RESPOND APPROPRIATELY IN GROUPS			91.93
		NUMBER OF STUDENTS IN SAMPLE:			1759

CHERRY CREEK SCHOOLS
Office of Research and Evaluation

Putting (and Keeping) Test Scores in Perspective
or
"What Else Can (and Should) I Use?"

In the past several months (and years) Research and Evaluation staff have received numerous telephone calls from individuals wanting to know the "best" school in the district--or, the one with the highest test scores. Invariably these people are equating best with highest (and maybe District staff are guilty of it, too!). What most of these people want is a school which will challenge their children intellectually, emotionally, physically, and socially. And, they believe that if their child (regardless of ability and previous achievement) is with the highest (i.e., "best") group of students, their child will be better.

We should present the best (i.e., most complete and impartial) picture of the school to our students, their parents, and the community. However, just sending a report on test scores (even though they may be above the state, national, or District average) is not sufficient to communicate the total educational program at a school. But what else can you (and should you) use as measures of your school's performance in preparing students for life?

Well, there are numerous ones available. Some require effort to collect and organize. Other data are easily gathered and summarized if a process is outlined and implemented. By collecting the information needed to report how your school stands in some of these other very important indicators of your school's work, you may be better able to interpret and utilize standardized test data to improve your educational program. More importantly, your community will learn more about what education is as a profession.

MKM 2/10/87 -1-

Factors to Consider in Communicating
A Complete Report Card for Your School

ATTENDANCE

* Absences: Student
* Absences: Staff
* Tardies: Student
* Tardies: Staff
* Percent of students/staff with perfect attendance (or less than X absences)
* Student participation in before/after school programs
* Parent participation in PTO meetings, back-to-school nights, special programs
* Total enrollment
* Graduation rate
* Dropout rate

NON-STUDENT PARTICIPATION

* PTO membership
* Number and types of parent volunteers
* Number and types of special programs/fundraisers/etc (RIF, Jr. Great Books, etc.)

DIVERSITY

* Student population by sex
* Staff by sex
* Student population by ethnicity
* Staff by ethnicity
* Percent of students receiving special educational help
* Percent of staff by responsibility (regular classroom teacher, resource room teacher, clerical staff, support staff, etc.)
* Percent of students eligible for free or reduced-price meals
* Percent of students with a home language other than English
* Percent of students eligible for Chapter 1 services

STABILITY

* Percent of staff new to school/district
* Percent of students new to school in past X months
* Percent of students who left school in past X months
* Percent of students (by grade) that have been at the school for: 1 year only; 2 years; 3 years; 4 years; 4+ years
* Average years of experience with the district for staff
* Average years of experience in the school for staff
* Average years of experience in education for staff

MKM 2/10/87 -2-

Factors to Consider in Communicating
A Complete Report Card for Your School

STAFF DEVELOPMENT

* Inservice programs for teachers
* Peer coaching/teaching programs
* Collaborative programs between business/industry and the school
* Collaborative programs between colleges/universities and the school
* Coursework/training taken by staff during year/summer
* Staff/school grants (skunk works, mini-grants, etc.)

PROGRAMS FOR STUDENTS

* Study skills
* Counseling Services (including vocational, post-secondary, etc.)
* Dropout prevention
* Students-at-risk
* Dropout recovery
* Preschool
* Peer/Cross-age tutoring
* Community: Big Brother/Sister; Scouting; 4H;
* Summer school
* Critical thinking/creative problem solving

ACHIEVEMENT

* Student performance after they leave: Feedback from middle/high schools on how well students are prepared relative to students attending other elementary/middle schools in the area
* Special projects by teachers/parents/staff
* Faculty/staff/student awards, presentations, publications, honors
* Percent of staff with advanced degrees
* ITBS scores
* Local Assessment results
* Previous year's ITBS scores
* Test scores for cohorts (following the same group of students throughout their school career)
* Distributions of test scores (percent of students who scored above the 75%ile; below the 25%ile; etc.)
* Number of books checked out of the library per student
* Accreditation
* Number of National Merit Scholarship: Qualifiers, Semi-Finalists, Finalists
* Student retention rate/number
* Excellence rewards
* Average number of high school out-of-class accomplishments
* College entrance (SAT; ACT) examination averages

Factors to Consider in Communicating
A Complete Report Card for Your School

ENVIRONMENT

* Number of incidences of student vandalism
* Number of fights between students
* Types and numbers of disciplinary actions against students
* Number of fights between staff (just kidding--wanted to see if you got this far)
* Special services at the school for:
  - physically handicapped students
  - emotionally handicapped students
  - socially handicapped students
  - mentally handicapped students
  - academically low-achieving students
  - academically gifted students
  - talented students (academic and nonacademic)
  - students from low-income families
  - students dominant in a language other than English
  - learning disabled students
  - students with behavioral problems
* Extracurricular activities at the school for students:
  - instrumental music
  - vocal music
  - sports
  - clubs
  - interest groups
* Number of hardbound library books per student
* Number of computer systems per X students
* Number of students needing (utilizing) extended day services (before and/or after school)
* Average class size
* Student/Teacher/Administrator/Staff Support ratio
* Length of school day/year
* Length of class periods
* Units required for graduation/advancement
* Average number of units taken in various subject areas
* Percent of students taking a foreign language (or other subjects)
* Average amount of homework required (by subject area)
* Percent of the school day of actual academic learning time

FISCAL

* Average Teacher/Administrator/Staff Support salary
* Per pupil expenditure
* Decentralized budget